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## Press Release

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Cambridge (UK), 16June2020

**Cambridge GaN Devices Ltd. (CGD) leads €10.3M project with 13 European Partners to deliver the most energy-efficient GaN power modules.**

**CGD leads the European funded GANEXT project under the PENTA Programme, targeting the design and development on highly efficient, highly compact prototypes of next generation Gallium Nitride power modules, for low and high power applications.**

The GaNext Penta project is undertaken by a powerful consortium with complementary expertise in GaN technology, high-frequency drivers, magnetics, smart controllers and end-user dedicated applications in the diverse field of power electronics. The consortium involves 13 partners from the industry and academia, covering all aspects of power conversion:

**PARTNERS**

- advlCo microelectronics GmbH
- Besi Netherlands B.V.
- Cambridge GaN Devices Ltd
- CSA Catapult
- Eindhoven University of Technology
- Fraunhofer IMS
- Infineon Technologies AG
- Lyra Electronics Ltd
- MACCON Elektroniksysteme GmbH
- Neways Technologies B.V.
- SUMIDA Components & Modules GmbH
- Signify B.V.
- Technische Universität Dortmund

**COUNTRIES INVOLVED**

Germany

Netherlands

United Kingdom

CGD is the sole supplier of GaN power devices which are at the heart of the power modules.

Cambridge GaN Devices (CGD) was spun out of the High Voltage Microelectronics and Sensors group in the Department of Engineering at Cambridge University in 2016 to develop Gallium-Nitride on Silicon substrate power semiconductors.

Dr Giorgia Longobardi, CGD's founder and CEO, said: "The Penta project creates a tremendous opportunity for CGD to engage with leading-edge companies in the area of power electronics. Not only will the project advance the knowledge in GaN technology and provide insights into its complex facets, but will aim at delivering fully-working prototypes in lighting, motor drives, converter blocks for renewable energies and on-board chargers for automotive with record specifications and outstanding performance."

Prof Florin Udrea, professor in semiconductor engineering, CTO and founder said: “The quality of the Penta consortium is remarkable and I have no doubt that we will deliver on the promises to make GaN technology a great success in the market. There is also a broader impact in adding our contribution to our ultimate quest for better use of energy resources and a cleaner environment.”

CGD offers GaN transistors that can operate at significantly higher switching frequency with lower losses and lower on-resistance when compared to state-of-the-art silicon devices. CGD is developing a range of GaN transistors, customised for different applications which would enable to push the boundaries significantly in conversion systems in terms of efficiency and power density.

Numerous companies, both large and small, now offer GaN transistors, some using GaN-on-Si to benefit from larger and lower cost wafers. While the efforts to date have focused on making GaN transistors work reliably and proving them in the market, current GaN devices are still difficult to use, which impedes broad market adoption. CGD is focused on eliminating this obstacle by developing GaN devices that can be driven in a similar way to silicon transistors and are easy to use. The company’s technology allows easy control using standard Mosfet drivers as well as micro-controllers and complements this with additional smart features and protection functions, fully embedded into its product solutions.

Dr Giorgia Longobardi and Prof Florin Udrea established CGD in 2016, supported by University of Cambridge tech transfer office, Parkwalk advisors, Cambridge Capital Group, Martlet and other angel private investors. CGD assembled a team of professionals with combined 100yrs+ in the semiconductor industry and 50yrs+ in GaN design, technology, operations and business development.

Dr Longobardi added: “We are extremely proud of our engineering, management and executive team with unique experience in the start-up eco-system in Cambridge and Silicon Valley and in commercialising power devices and power ICs in high volume. We have a highly experienced team and we are not afraid to tackle difficult technical and commercial challenges. The Penta project is the right platform to help CGD in its mission, to shape the future of power electronics.”

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Dr Giorgia Longobardi, CEO: previously the leader of the GaN program in the power device group at the engineering department at Cambridge University, Research Fellow at Gonville & Caius College Cambridge University, 2017 Japanese Society for the Promotion of Science Fellow, 2019 Royal Academy of Engineering (RAEng) young engineer of the year, and 2020 RAEng SME leader.

Prof Florin Udrea, CTO: professor in semiconductor engineering at the University of Cambridge and head of the High Voltage Microelectronics and sensors group, author or co-author of >500 papers and more than 150 patents. He was also the founder of Cambridge Semiconductor and three other companies.

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