

# QPT shortlisted for the ABB Power Density Challenge

CAMBRIDGE, UNITED KINGDOM,  
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EINPresswire.com/ -- [QPT](#) has been chosen as one of four finalists to participate in the ABB Power Density Start-up Challenge 2023 for Motor Drive Products.

According to the organisers, ABB, “We are seeking innovative and forward-thinking start-ups to join us in pushing the boundaries of drives and motors. Today, motors and drives are largely viewed as two independent devices.

The winner will collaborate with us to develop an integrated solution that optimizes resources and combines motors and drives into a single, seamless solution. We are looking for motivated and disruptive minds to work with ABB's experts to create an integrated motor drive technology for a more efficient future. Key factors that we are looking for are improvements in power density, thermal management, sustainable supply, overall simplicity and cost effectiveness to redefine the operational boundaries and improve the efficiencies of drives and motors for a more sustainable planet.”

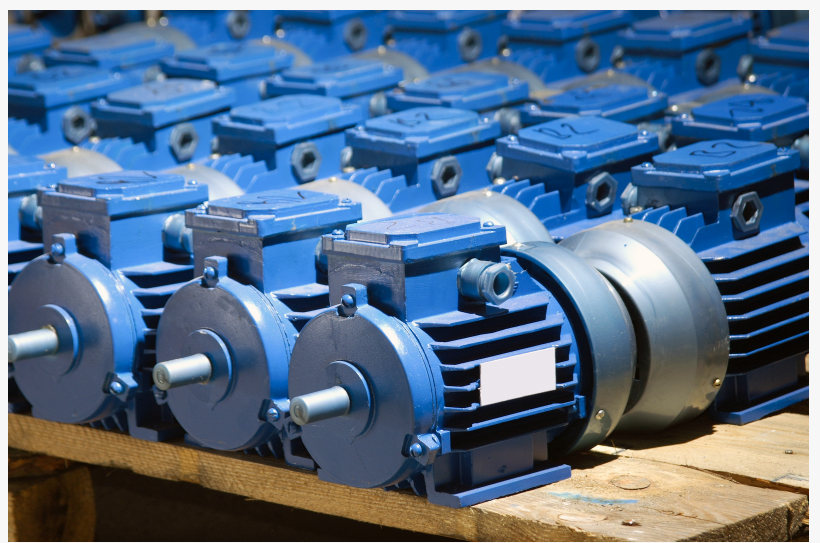
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Being shortlisted is actually a real win for us as it means that ABB has recognised that we have a technology that they think could be what they are looking for.”

*Rob Gwynne, CEO QPT*

Rob Gwynne, Founder and CEO of QPT, said, “Our technology enables drives controls or Variable Frequency Drives (VFDs) to be made much smaller as we achieve the

best power densities and efficiencies of any current technology by now enabling GaN to be hard-switched at 1 to 2ns. Current VFDs are bulky which means that they are invariably located away from the motor itself and then connected by copper cables that are big and heavy to cope with the hundreds of Amps or so going through them and also waste energy in the process. QPT's next generation GaN technology shrinks the size of a VFD to around a twentieth of the size so that it can be integrated beside the motor. The need for big, costly filters that Si, SiC or slow existing GaN alternatives require and preclude easy integration is also eliminated further



reducing the overall size which further helps integration.

“Being shortlisted is actually a real win for us as it means that ABB has recognised that we have a technology that they think could be what they are looking for. The final decision of which company wins the challenge is scheduled to be announced on the 7th of December 2023 but, in the meantime, there is a detailed evaluation process which means that our technology will be examined in depth over ten days by key people in ABB, putting us firmly on the radar screen of a leading company in the motor industry and a possible customer.”



Full details are at <https://www.collaborateandcommercialize.com/abb-power-density-startup-challenge-2023> and [https://www.linkedin.com/posts/abb-motors-and-drives-noam\\_abb-drives-motors-activity-7130268400404021249-xvh/?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/abb-motors-and-drives-noam_abb-drives-motors-activity-7130268400404021249-xvh/?utm_source=share&utm_medium=member_desktop)

#### Drive GaN to the Max™

GaN transistors are the future of power electronics due to their ability to operate at higher frequencies for switching on and off. A slow switching transition wastes energy because, during the switching time, when the transistor is neither on nor off, it dissipates huge amounts of power, resulting in energy losses and overheating issues. The higher the switching speed, the less time is spent in transition, and the less energy is lost. GaN transistors can quickly transition from on to off at 1-2ns instead of 20-50ns for Si and SiC transistors. However, achieving maximum performance is challenging in many high-voltage, high-power applications without significant RF interference issues or overheating.

QPT's qGaN module solution enables the GaN transistors to be run at their full potential of up to 20 MHz with nanosecond switching to deliver better operational precision. QPT's technology in a Variable Frequency Drive (VFD) enables motors to be driven at up to 99.7% efficiency at peak load with hardly any decrease in efficiency at lower loads. This is a challenge for conventional designs today, where the efficiency can drop off rapidly at lower loads. In addition to superior efficiency, the higher converter frequency significantly reduces the size and weight of the power electronics, by up to 20x, as well as reducing the manufacturing costs due to the removal of expensive filters that are normally required to protect the motor. Application areas include heat pumps, industrial motors, HVAC systems and Electric Vehicles.

#### About QPT Limited

Established in Cambridge in 2020 as an independent power electronics company, QPT™

specialises in the delivery of high-performance, efficient, and cost-effective solutions to solve the challenges of designing with Gallium Nitride transistors. QPT™ technology unlocks the potential of GaN to provide huge power savings across a wide range of electrical devices.

Please visit [www.q-p-t.com](http://www.q-p-t.com) or contact [info@q-p-t.com](mailto:info@q-p-t.com) for further information.

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