Cambridge Quantum

PRESS RELEASE

Cambridge, United Kingdom
Wednesday, September 29 2021

CAMBRIDGE QUANTUM'S TKET is now Open-Sourced

(tket) CQ

World-leading high-performance quantum computing software development toolkit now fully open sourced providing resources to a global eco-system

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Cambridge Quantum (CQ) is pleased to announce that the latest version (v.0.15) of TKET (pronounced "ticket"), our class leading high-performance hardware-agnostic quantum software development kit, is now completely open-source and immediately available for all to use without restrictions.

Ilyas Khan, CEO of Cambridge Quantum, commented, "We first announced that TKET would be available on an 'open-access' basis earlier this year, with a commitment to become fully open-sourced by the end of 2021. During that period, a global community of software developers embraced and adopted our class leading product that delivers the best possible performance, whilst utilising existing platforms such as Qiskit and Cirq, as well as the largest collection of quantum processors available. The growth of the global TKET community has been astonishing and I am so pleased that we can now complete this part of our journey."

Dr. Ross Duncan, Head of Software at Cambridge Quantum added, "Minimising gate count and execution time are very important in this Noisy Intermediate Scale Quantum (NISQ) era. TKET combines high-level hardware-agnostic optimisation for quantum circuits with target specific compilation passes for the chosen quantum device. This helps quantum computing users move seamlessly between quantum platforms, while maintaining consistent high performance. Users need only to focus on developing their quantum applications, not rewriting code around the idiosyncrasies of any particular hardware. At the same time, we help quantum computing hardware companies ensure that they can get the best performance from their processors."

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Open-sourcing permits for more transparency of the code, easier reporting of issues and more robust integrations. The rapidly growing quantum software community will now be able to make their own contributions or take inspiration and develop their own extensions to the codebase under the permissive Apache 2.0 license.

This development follows the open-sourcing of extensions which began in Version 0.8; extensions are Python modules which enable TKET to work with different quantum devices and simulators, and provide integration with other quantum software tools. Extensions are available for all the main quantum hardware and software platforms. You can learn more about these details in our documentation and tutorials on GitHub.

ABOUT CAMBRIDGE QUANTUM

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We set out our vision to positively transform the world using the power of quantum computing back in 2014. Today, we are recognised as one of the foremost quantum computing companies, delivering science-led, enterprise-driven solutions to tackle hard problems across a diverse range of industries.

Cambridge Quantum designs, engineers and deploys algorithms and enterprise application libraries, translating cutting-edge research into industry leading technologies through a product-centric focus. Tket, our hardware-agnostic software development platform, and other technologies are currently utilised by an expansive and ever-growing user base.

The team at Cambridge Quantum has been developing the theoretical foundations of quantum computing for over 25 years, forging ahead with breakthroughs in the fields of quantum chemistry, quantum artificial intelligence, quantum cybersecurity and quantum algorithms.

At present, we have the deepest roster of researchers, developers and engineers, working to democratise quantum computation and realise the benefits for the greatest possible number of people.

FOR MORE INFORMATION

CambridgeQuantum.com
LinkedIn
Access the source code for TKET, Python bindings and utilities on GitHub