Kipu Quantum Commercializes Its Application for Large Optimization Problems on IBM's Qiskit Functions Catalog

Application now available to members of the IBM Quantum Network including Fortune 500 companies, academic institutions, and research labs

ANAHEIM, CA, UNITED STATES, March 18, 2025 /EINPresswire.com/ -- Kipu Quantum, a leader in application and hardware-specific quantum computing solutions, announces that its Iskay Quantum Optimizer, a function available on Kipu's PLANQK platform, is now available for use through IBM's Qiskit Functions Catalog.

With the Iskay Quantum Optimizer, businesses have a new option to tackle complex optimization problems using IBM's utility-scale quantum systems. The application is available to IBM Quantum Network member organizations' developers, researchers, and data scientists worldwide.

> "This collaboration with IBM underscores our commitment to providing co-designed quantum solutions recognized by leading hardware innovators."
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> *Daniel Volz, Kipu Quantum CEO and Co-founder*

"I'm excited to share Kipu Quantum's new Qiskit function, Iskay Quantum Optimizer, with our users. This function, built on the BF-DCQO algorithm, is an excellent example of a heuristics for optimization applications, which has the potential to drive us as a community faster to quantum advantage. I'm looking forward to learning more about how optimization researchers use the function on IBM's quantum systems, in their quantum workflows," said Jay Gambetta, Vice President, IBM Quantum.

The Iskay Quantum Optimizer is engineered to address complex optimization problems, such as higher-order unconstrained binary optimization (HUBO), capable of using all 156 qubits on an

IBM Heron processor-powered system. Leveraging Kipu's advanced BF-DCQO algorithm, the application delivers a high-quality solution in a short time frame due to the non-variational nature of the algorithm.

"We are delighted to have our product, Iskay Quantum Optimizer, featured in the IBM Qiskit Functions Catalog. This collaboration with IBM underscores our commitment to providing co-designed quantum solutions recognized by leading hardware innovators. The incredible efforts and brilliance of our team have resulted in a technology that can outperform other quantum algorithms and classical solvers at quantum-utility-level for exploring real-world applications," said Daniel Volz, CEO and Co-founder of Kipu Quantum.

The development of quantum algorithms to solve complex large-scale combinatorial optimization problems is important in quantum computing to achieve the sought-after potential across various industries, including logistics, finance, telecommunications, energy, chemistry, artificial intelligence, materials, and manufacturing. Traditional computing struggles to manage the complexities of these challenges.

Last year, Kipu Quantum unveiled its new algorithm Bias-Field Digitized Counterdiabatic Quantum Optimization (BF-DCQO), which utilizes quantum dynamics, effectively encoding the optimization scenarios into gate-based quantum computers to outperform traditional algorithms like QAOA. This groundbreaking technology, harnessing counterdiabatic protocols, enabled one of the largest optimization experiments to date on a utility-scale IBM quantum system, utilizing all 156 qubits of an IBM Heron processor.

Kipu Quantum wants to honor its commitment to lead worldwide in quantum computing solutions by naming its product involving the word defining number two in Quechua language, given that the number one should remain as the constant goal.

The demonstration of the new Qiskit Function by Kipu Quantum will be presented at the IBM booth (#448) at the APS Global Physics Summit at 1pm Pacific on Tuesday, March 18th.

Learn more about the Iskay Quantum Optimizer Function on the IBM Quantum Platform here.

About Kipu Quantum:

Kipu Quantum is a German company developing hardware- and application-specific quantum computing solutions for a wide range of industries. Founded in 2021, Kipu Quantum's approach has the potential to solve industry-relevant problems in the order of 100-1,000 physical qubits due to novel algorithmic compression methods. Kipu's technology is compatible with all leading quantum hardware technologies. The company is currently testing its technology with customers in the pharmaceutical, chemical, logistics, artificial intelligence, and finance industries. In July 2024, Kipu Quantum announced a strategic acquisition of PLANQK, a leading quantum computing platform. This acquisition is drastically accelerating the commercialization of Kipu's

application- and hardware-specific algorithms, enabling frictionless access for organizations to integrate quantum solutions into their existing processes.□□

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