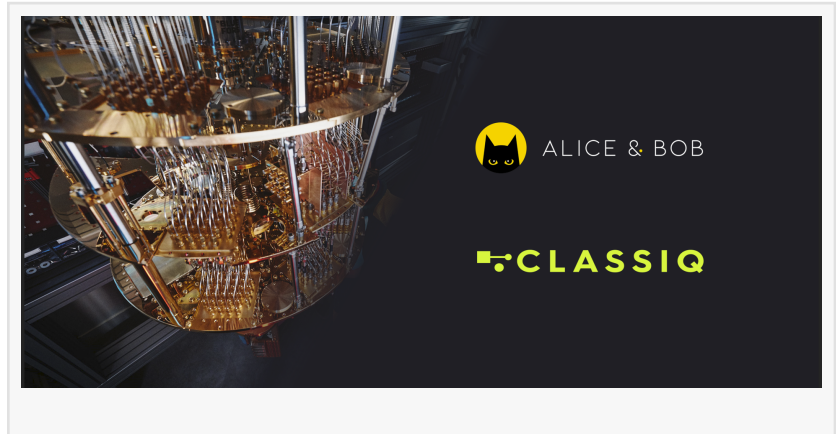# Classiq and Alice & Bob to Deliver End-to-End Quantum Computing From High-Level Development to Logical Qubit Emulator

PARIS & TEL AVIV, FRANCE & ISRAEL, March 7, 2024 /EINPresswire.com/ -- Classiq, a leading quantum software company, and Alice & Bob, a frontrunner in the race to build a fault tolerant quantum computer, today announced a new partnership that bridges the gap between quantum software and hardware. The collaboration will light the path to the era of Fault-Tolerant Quantum Computing by enriching the Classiq platform with Alice & Bob's cat qubit technology and useful tooling for logical qubits.

"The collaboration between Classiq and Alice & Bob illustrates a paradigm shift," said Théau Peronnin, CEO of Alice & Bob. "The quantum community now understands the importance of logical qubits, but logical qubits require a whole new set of tools. By combining cat qubits, the most promising technology to implement logical qubits, with Classiq's platform, the most sophisticated circuit synthesis engine, we give the quantum community a glimpse into the future".

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>
> *Théau Peronnin, CEO of Alice & Bob*

At the heart of this partnership is the expansion of Classiq's already extensive range of quantum computing back-ends to include an early-access program to the first logical qubit emulator, capable of simulating logical qubits based on cat qubits. With control over several parameters influencing noise levels, this initiative offers researchers and developers a first-hand experience in exploring the effects of quantum noise and testing the resilience of quantum algorithms in a near-real quantum environment.

"The Classiq platform is dedicated to getting the most out of quantum computers and with this important collaboration now includes running a useful number of logical qubits," said Nir

Minerbi, CEO, Classiq. "Alice & Bob's exciting plans to build a quantum computer with 100 logical qubits at a 1e-8 error rate inspire us to adapt our platform accordingly to seamlessly empower their progress. In the future, enhanced resource estimation and compilation tool capabilities will be an additional area of focus."

"Together, we're unlocking new opportunities for research and exploration," said Peronnin and Minerbi. "Our partnership is a testament to our companies' shared vision of accelerating the advancement of quantum computing. By offering the quantum computing community access to state-of-the-art technologies, we let developers and researchers worldwide prepare for the fault-tolerant devices which will fulfill the promises of quantum computing."

About Classiq
Classiq Technologies, the leading quantum software company, provides an all-encompassing platform (IDE, compiler and OS) with a single point of entry into quantum computing, taking you from algorithm design to execution. The high-level descriptive quantum software development environment, tailored to all levels of developer proficiency, automates quantum programming. This ensures that a broad range of talents, including those with backgrounds in AI, ML and linear algebra, can harness quantum computing without requiring deep, specialized knowledge of quantum physics. Classiq democratizes access to quantum computing and equips its users to take full advantage of the quantum computing revolution, including access to a broad range of quantum hardware.

Classiq's core technology, algorithmic quantum circuit compilation, is engineered to power the quantum ecosystem of today and the future. Classiq works closely with quantum cloud providers and advanced computation hardware developers providing software for use with quantum computers, HPC and quantum simulators.

Backed by investors such as HPE, HSBC, Samsung, Intesa Sanpaolo and NTT, Classiq's world-class team of scientists and engineers has distilled decades of quantum expertise into its groundbreaking quantum engine. Follow Classiq on LinkedIn, X (formerly Twitter) or YouTube, and visit the Slack community and website, www.classiq.io to learn more.

About Alice & Bob
Alice & Bob is a start-up based in Paris and Boston whose goal is to realize the first universal, fault-tolerant quantum computer. Founded in 2020, Alice & Bob has already raised €30M in funding, hired over 90 employees, and demonstrated experimental results surpassing those of technological giants like Google or IBM. Alice & Bob specializes in cat qubits, a technology pioneered by the company's founders and later adopted by Amazon. Demonstrating the power of its cat architecture, Alice & Bob recently showed it could reduce hardware requirements to build a large-scale useful quantum computer by up to 200 times compared to competing approaches. Follow Alice & Bob on LinkedIn, X or YouTube, visit our website www.alice-bob.com, or join The Cat Tree on Slack to learn more.

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