

Eviden and Alice & Bob Open the Way to Fault-tolerant Quantum Computing

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Eviden, an Atos business, and [Alice & Bob](#) today announce a partnership to make Alice & Bob patented cat qubit technology accessible to end users in Qaptiva™, Eviden's quantum application development platform.

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The Qaptiva™ platform enables our customers to explore the rich universe of quantum computing, ... Alice & Bob's cat qubits are a fascinating building block for fault-tolerant quantum computers.”

Cédric Bourrasset, Global Head of HPC-AI & Quantum Computing at Eviden

Pioneered by Alice & Bob, cat qubits are a promising approach to solving quantum computing's biggest problem: computation errors. Their innovative hardware-efficient design will reduce the hardware requirements for a fault-tolerant quantum computer by up to 60 times compared to other qubit technologies.

By featuring Alice & Bob's cat qubits as an emulation target, Eviden takes its Qaptiva™ application development platform on the way to fault-tolerant quantum computing.

Its users will now be able to learn how to use the biased noise of cat qubits to implement quantum error correction,

a crucial mechanism to escape the noise plaguing all quantum computers.

The power of Qaptiva™ enables one to experiment with cat qubits and emulate the behavior of architectures creating several logical qubits, each made with several physical qubits. Cat qubits will also be supported as a compilation target to improve current quantum algorithms. Access to real quantum computers featuring cat qubits and optimized compilation will be available down the road.

This partnership highlights the vitality of the French quantum ecosystem, which features 5 major hardware manufacturers, major software and cloud players, strong governmental support and cutting-edge end-user companies.

Théau Peronnin, CEO at Alice & Bob: “We are very excited to partner with Eviden and bring our customers to the future of quantum computing: error correction and fault-tolerance. We are on a mission to escape decoherence, and Qaptiva™ is the perfect platform to show how this can

be achieved.”

Cédric Bourrasset, Global Head of HPC-AI and Quantum Computing at Eviden, Atos Group: “The Qaptiva™ platform enables our customers to explore the rich universe of quantum computing technologies, and today’s addition makes it richer than ever. Alice & Bob’s cat qubits are a fascinating building block for fault-tolerant quantum computers.”

About Eviden

Eviden is a next-gen technology leader in data-driven, trusted and sustainable digital transformation with a strong portfolio of patented technologies. With worldwide leading positions in advanced computing, security, AI, cloud and digital platforms, it provides deep expertise for all industries in more than 53 countries. Bringing together 57,000 world-class talents, Eviden expands the possibilities of data and technology across the digital continuum, now and for generations to come. Eviden is an Atos Group company with an annual revenue of c. € 5 billion.



About Alice & Bob

Alice & Bob is a French start-up whose goal is to realize the first universal, fault-tolerant quantum computer. Founded in 2020, Alice & Bob has already raised 30M€ in VC capital, hired over 70 employees, and demonstrated experimental results surpassing those of technological giants like Google or Amazon.

A laureate of the French Tech DeepNum 20 and French Tech 2030 programs, Alice & Bob specializes in cat qubits, a technology reducing hardware requirements by up to 60 times compared to competing approaches.

The impact of fault-tolerant quantum computing is expected to reach hundreds of billions of dollars in fields as diverse as material science, energy, artificial intelligence, logistics, aeronautics, automotive, pharmaceuticals, finance...

More info: <https://www.alice-bob.com/>

About Atos

Atos is a global leader in digital transformation with 110,000 employees and annual revenue of c. € 11 billion. European number one in cybersecurity, cloud and high-performance computing, the Group provides tailored end-to-end solutions for all industries in 69 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital

for its clients. Atos is a SE (Societas Europaea), and listed on Euronext Paris.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

Eviden business is operated through the following brands: Alia Consulting, AppCentrica, ATHEA, Atos Syntel, Bull, Cloudamize, Cloudreach, Cryptovision, DataSentics, digital.security, Eagle Creek, EcoAct, Edifixio, Energy4U, Engage ESM, Evidian, Forensik, IDEAL GRP, IDnomic, In Fidem, Ipsotek, Maven Wave, Miner & Kasch, Motiv, Nimbix, Processia, Profit4SF, science+computing, SEC Consult, Visual BI, Worldgrid, X-Perion, zData

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