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Python | Qiskit | C/C++ | JavaScript | Quantum computing | Computer Science | Flutter/Dart | Quantum Computing Research

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Why are quantum teams racing to build LOGICAL qubits?

Big quantum applications – like drug discovery, battery materials, and fertilizer production – require massive numbers of gates to run. But with more gates comes a higher chance of errors.

So how do we tackle this?

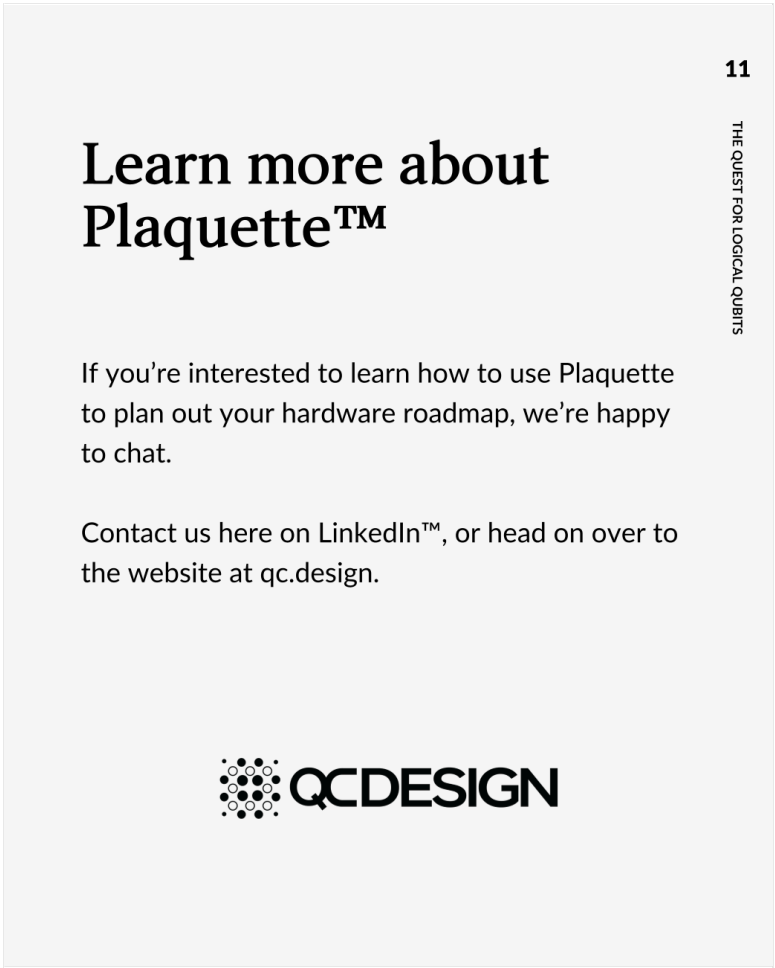
Logical qubits protect quantum information by encoding it across many physical qubits. This approach enables deep circuits with billions of gates, even when individual physical qubits aren't perfect.

Designing logical qubits is essential for scalable quantum computing, but it isn't easy. At QC Design, we're simplifying this process.

Our tool Plaquette helps hardware teams understand and design logical qubits by simulating errors and optimizing architectures.

Check out our carousel that explains why quantum computing needs logical qubits👇

#quantumcomputing #faulttolerance #errorcorrection #qcdesignlearninghub

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**Jose Brandao-Neto** • 3rd+
Senior Product Owner at Diamond Light Source
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Where does modelling fit in a typical real life application stack? What type of team member prunes the model for optimal performance before running any simulation?

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**Ish Dhand** • 2nd
CEO and Co-Founder @ QC Design
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Thanks for the question, Jose! Modelling errors and characterizing the model parameters are something that all QC hardware teams are working on. The architecture is then optimized based on the error models and typically simulations are needed for this optimization. Hope that helps!

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**akay tekin** • 2nd 3mo
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