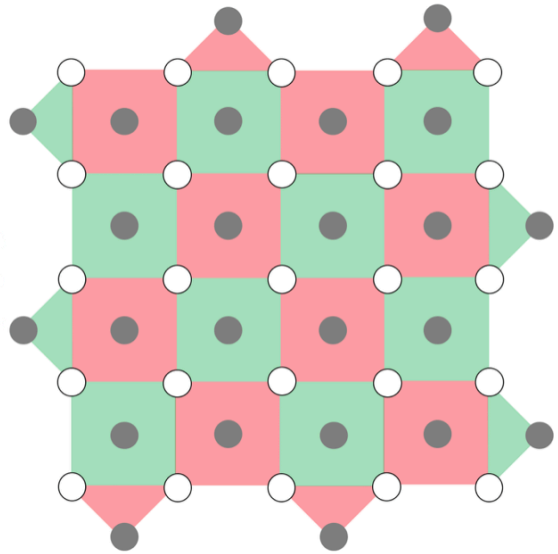
ACTIVE ERROR CORRECTED QUANTUM MEMORIES.

Chip (physical qubit array)	Physical size (assuming 0.25mm qubit pitch)	Encoded memory time
10 x 10 = 100 qubits	2.5 x 2.5 mm	7.8 microseconds
20 x 20 = 400 qubits	5 x 5 mm	12 milliseconds
25 x 25 = 625 qubits	6.3 x 6.3 mm	0.41 Seconds
30 x 30 = 900 qubits	7.5 x 7.5 mm	13.8 seconds
35 x 35 = 1,225 qubits	8.8 x 8.8 mm	7.4 minutes
40 x 40 = 1,600 qubits	10 x 10 mm	3.9 hours
45 x 45 = 2,025 qubits	11.3 x 11.3 mm	5.1 days
50 x 50 = 2,500 qubits	12.5 x 12.5 mm	22 weeks
55 x 55 = 3,025 qubits	13.8 x 13.8 mm	13.2 years



Assume a system with physical gate times of order microseconds, a final fidelity of your logical state of 99.99% and assume all physical Error rates are below the surface code threshold
At 0.1%