

# Coherent control and large-scale characterisation of silicon quantum devices fabricated using 300-mm wafer processes

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Silicon-based quantum computing has seen substantial progress in the last few years - developments include demonstrations of fidelities above the fault-tolerant threshold and scaling to several-qubit devices. Industrial fabrication processes are now being used to take full advantage of the scaling and cryo-electronics co-integration capabilities offered by silicon technologies. We present Quantum Motion's recent work on devices fabricated using 300-mm wafer processes, including exchange-driven spin-spin interactions, rapid characterisation of 1000+ quantum dots, and on-chip deep-cryogenic thermometry