

IBM, ... 4,000

- (Quantum Advantage)

- (Qiskit Runtime) , ,

-

- ' , (harvest now, decrypt later)'



, 2022 5 13 – IBM . IBM . IBM

IBM . , , .

(Dario Gil) IBM " 2 , " " , (Qiskit Runtime) , , .

IBM 2020 , . 127 ‘IBM (Eagle)’ . , IBM
2017 120 . IBM 433 ‘IBM (Osprey)’ .

2023 IBM .
 , IBM 1,000 ‘IBM (Condor)’ .

, IBM . (coupler) ,
 . , IBM .

IBM 2025 **4,000** [\[1\]](#) .

IBM , . IBM (Qiskit Runtime Primitive) .

IBM 2023 (Quantum Serverless) IBM . ,
IBM .

IBM IBM (Quantum System Two) . IBM . 2023
 .

IBM ()

IBM . , , . IBM (NIST)
 .

IBM IBM (Quantum Safe) . IBM , , .

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[1] <https://www.research.ibm.com/blog/ibm-quantum-roadmap-2025>

<https://kr.newsroom.ibm.com/announcements?item=122710>