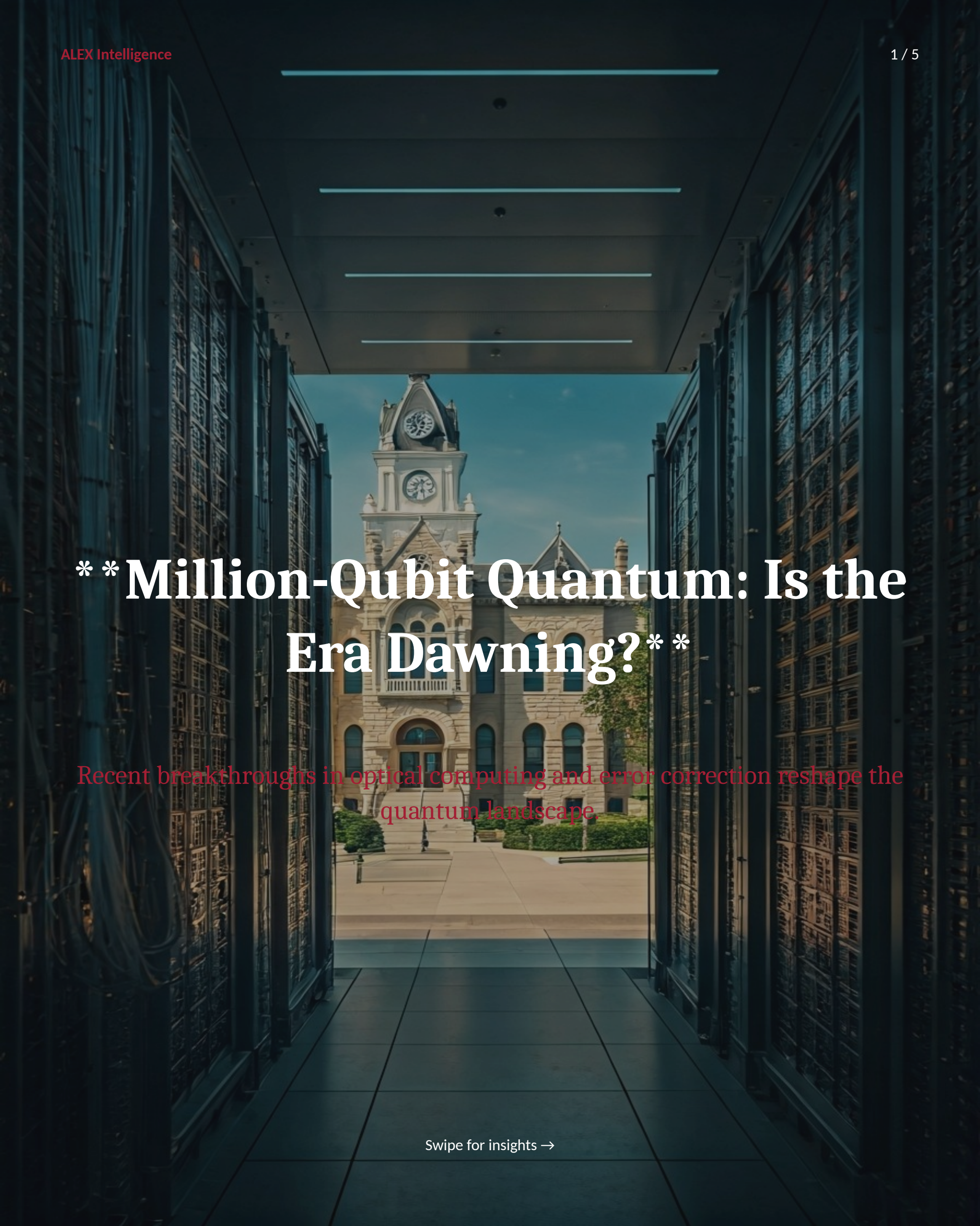


Million-Qubit Quantum: Is the Era Dawning?

Recent breakthroughs in optical computing and error correction reshape the quantum landscape.

Swipe for insights →

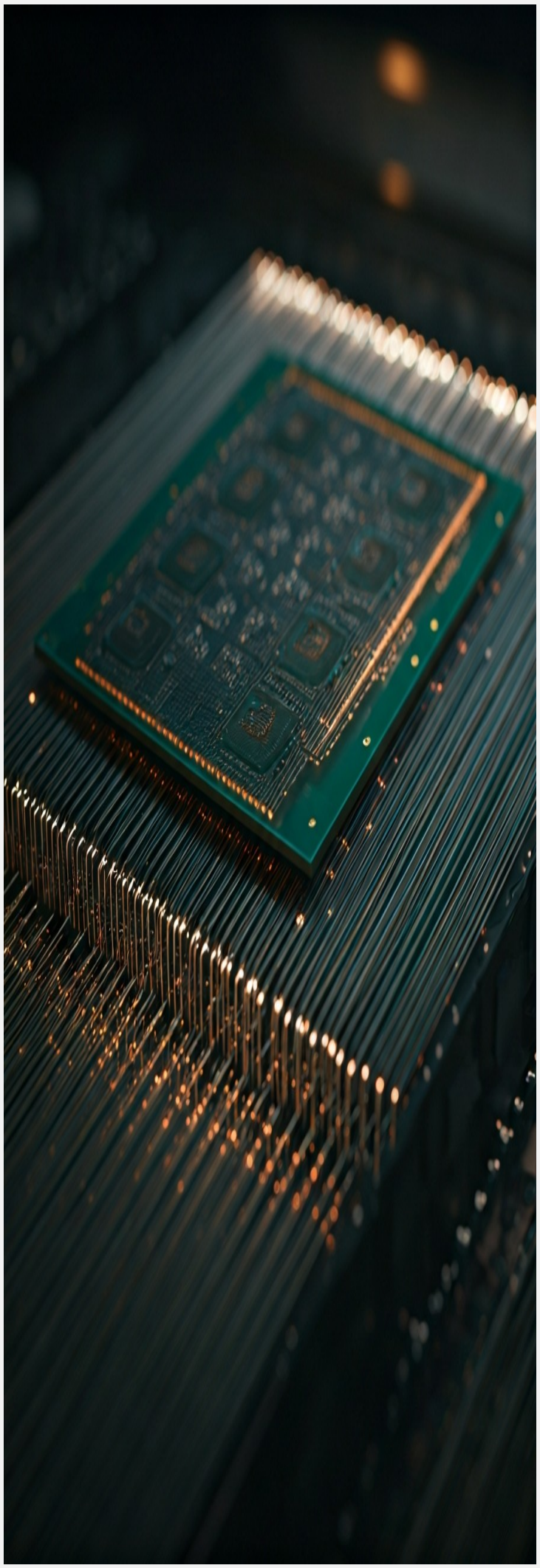
THE DATA

Million-Qubit

Optical Quantum Computing Scale Target

Guizhen Chip's on-chip Measurement-Based Quantum Computation (MBQC) breakthrough provides a potential path toward this scale for optical quantum computers.

This significant advancement in on-chip MBQC marks a critical step towards highly scalable optical quantum systems. The ability to integrate such capabilities on a chip is crucial for practical implementation and wider adoption, reducing the complexity and footprint required for quantum operations.



Source: Pandaily · Published August 10, 2026

01

On-Chip MBQC: The Path to Scalable Hardware

The Guizhen Chip's innovation in on-chip measurement-based quantum computation dramatically advances the ability to build large-scale optical quantum systems. This integration sidesteps the historical bottleneck of multi-photon sources, moving the field closer to realizing complex, general-purpose quantum computers.



02

Error Correction: Enabling Practical Quantum

While scaling is vital, robust quantum error correction remains paramount for practical quantum computing. D-Wave's research on high-fidelity two-qubit gates, achieving approximately 99.9% fidelity, highlights a crucial step in mitigating errors and reducing the significant hardware overhead typically associated with fault-tolerant systems.

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