

PASQAL

QUANTUM DISCOVERY

Development roadmap

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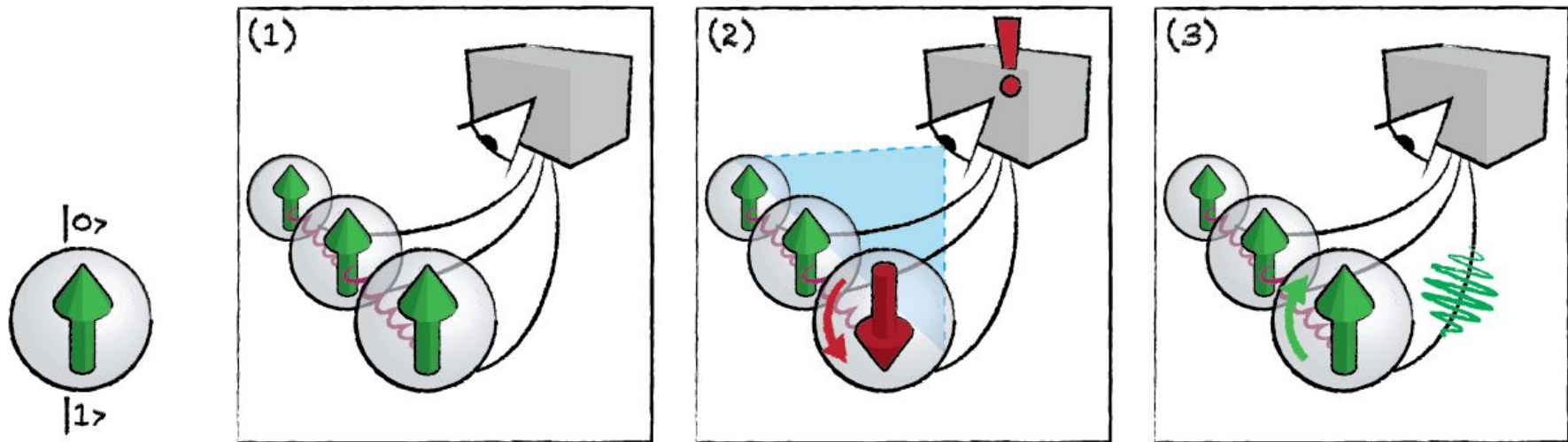
France

Forthcoming development

Quantum error correction

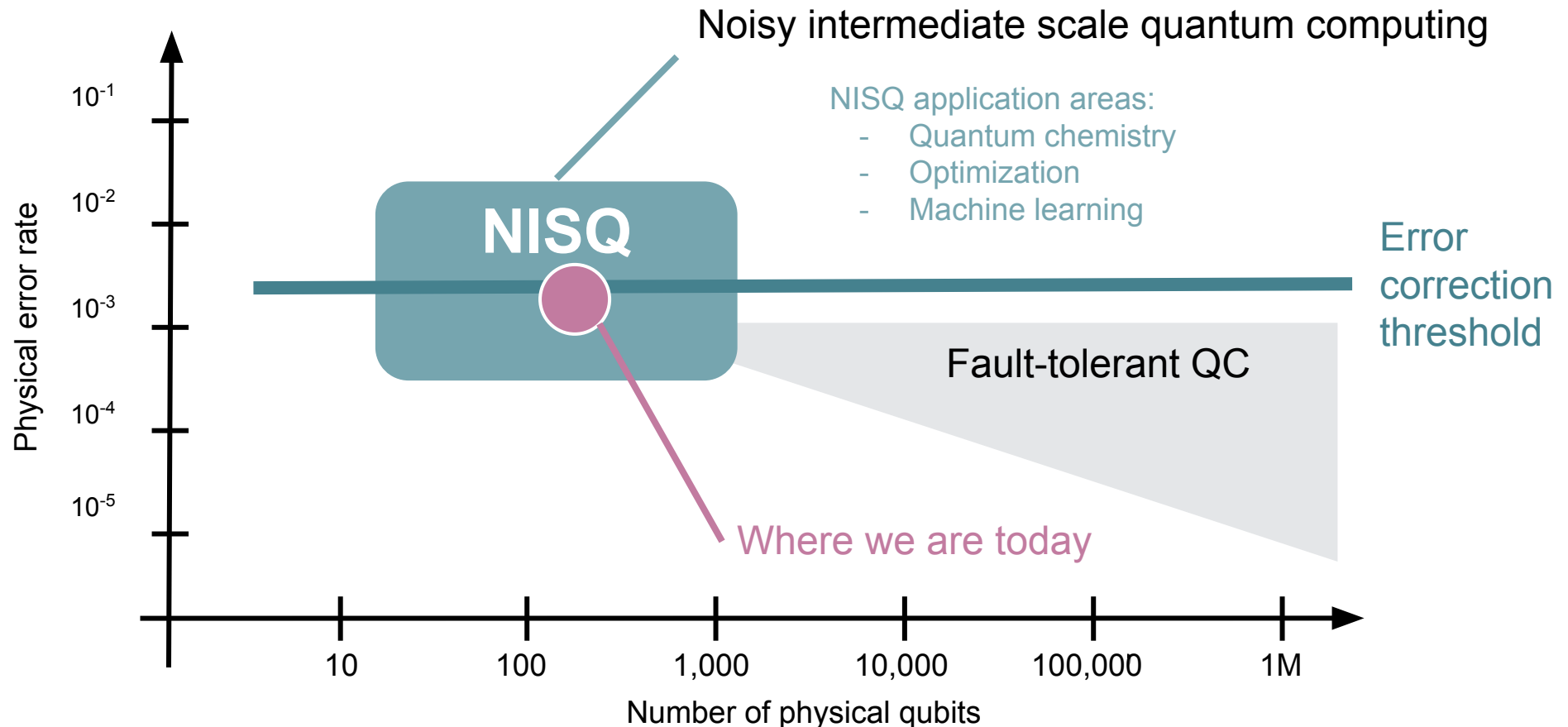
The protected “logical” quantum information is encoded in highly entangled states of many physical qubits.

The environment can't access this information if it interacts locally with the protected system.



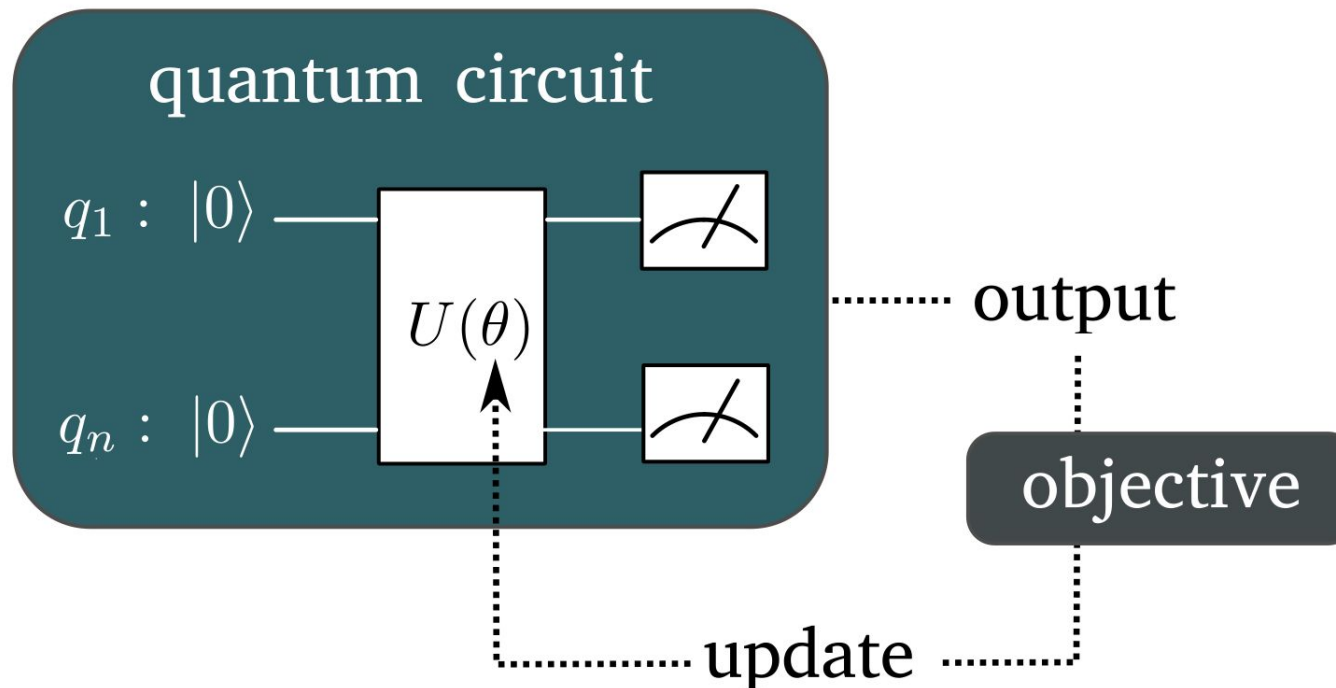
Forthcoming developments

NISQ vs FTQC



Forthcoming developments

Hybrid quantum-classical implementations in the NISQ era



Conclusion

- Noise is an inherent feature of quantum computers
- Quantum error correction is essential to achieve fault tolerant quantum computing
- Quantum error correcting codes rely on highly entangled physical qubits to spread quantum information
- Quantum error correction at scale is beyond current capabilities
- Hybrid-quantum classical solutions relying on parametric quantum algorithms to be trained offer a mean for near term implementation on noisy quantum devices