



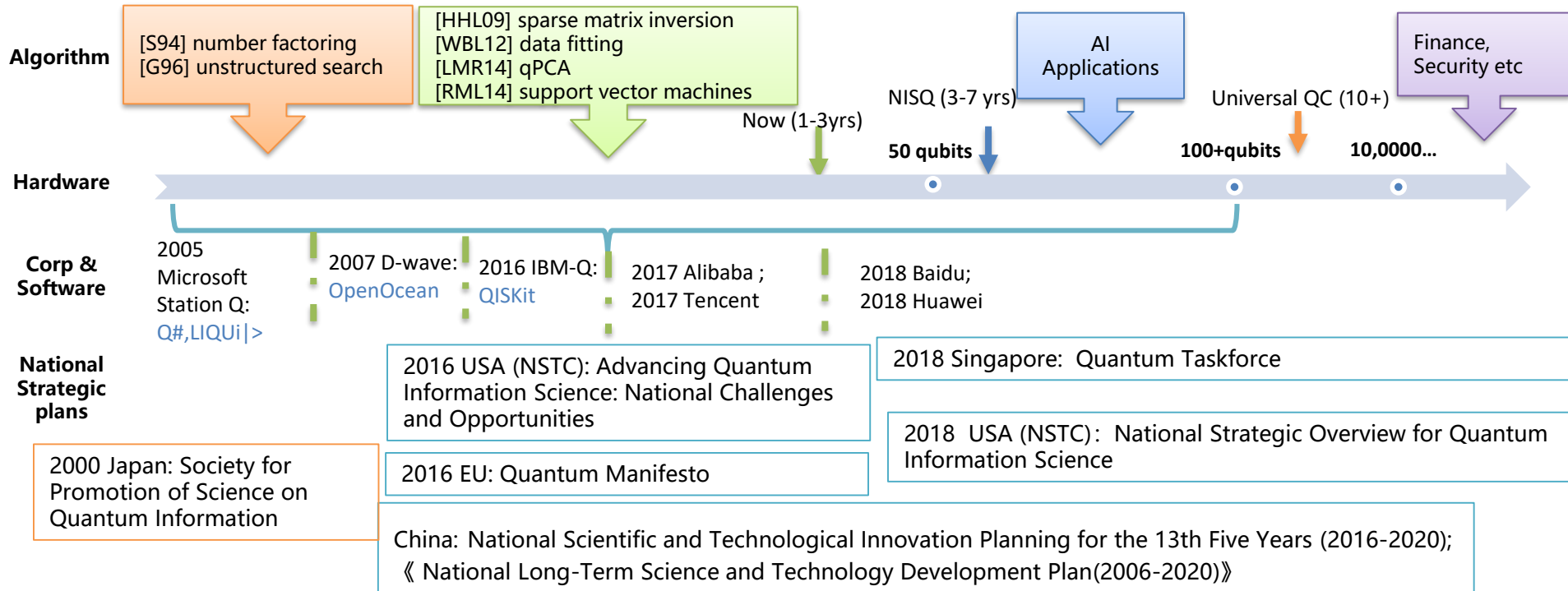
Introduction to **Baidu Quantum Program**

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Quantum Technology Trends



Baidu Quantum, Quantum Baidu

Mission:

To be a world-leading Quantum Artificial Intelligence Research Institute, and continuously integrate relevant quantum technologies into real applications.

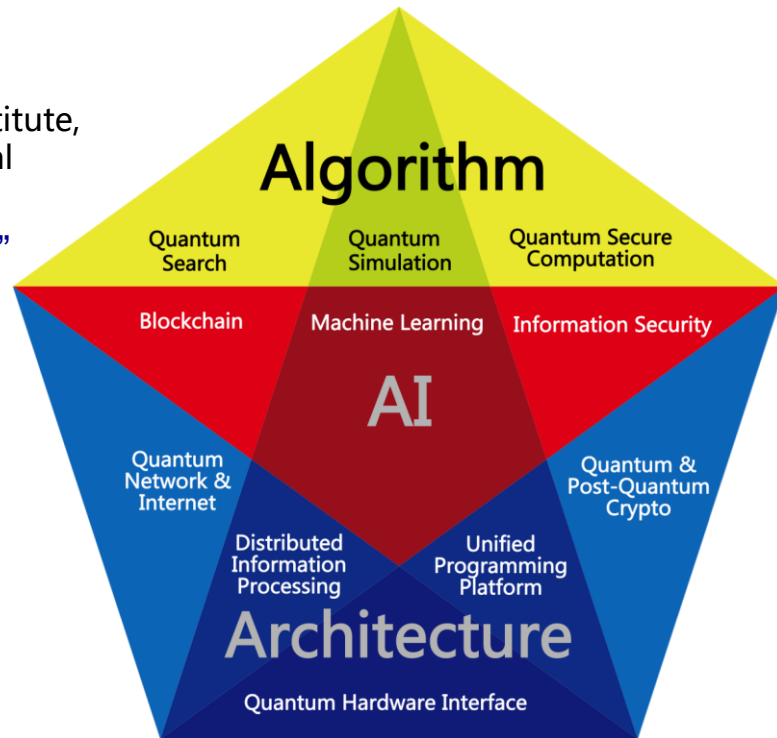
“Make Baidu Quantum Ready; New Potential Businesses”

Key Areas (QAAA):

- Quantum Algorithm
- Quantum AI
- Quantum Architecture

Goals:

Build quantum technology capacity; Top Talents; National research projects; Develop key AI applications into core services (cloud computing, intelligent driving cars, search, security, map, education etc)





Quantum Simulation



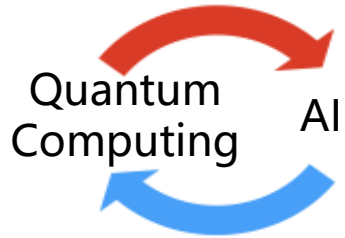
Quantum Search



Quantum
Secure Computation



Quantum AI



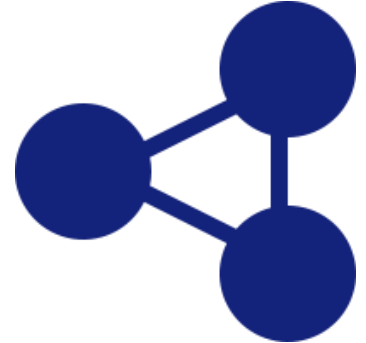
- To utilize quantum computing to promote AI
- To break the bottleneck of quantum area with AI technology



Machine Learning



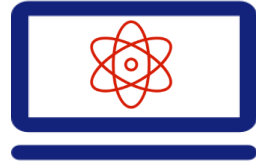
Information Security



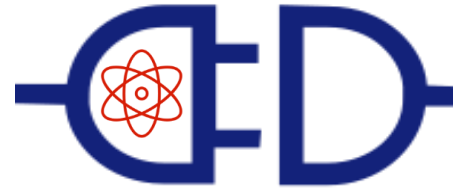
Blockchain



Quantum Architecture



Unified Programming
Platform



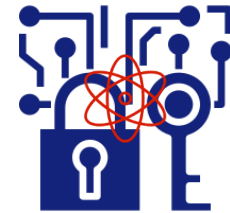
Quantum
Hardware Interface



Distributed Quantum
Information Processing



Quantum Network
and Internet



(Post)-Quantum
Crypto

Quantum Infrastructure as a Service(QaaS)

Applications



Unified Programming Platform
(in developing)

Online
IDE

Application
Libraries

Algorithms
Libraries

High-level
Function

Front-end

Instructions

Logic



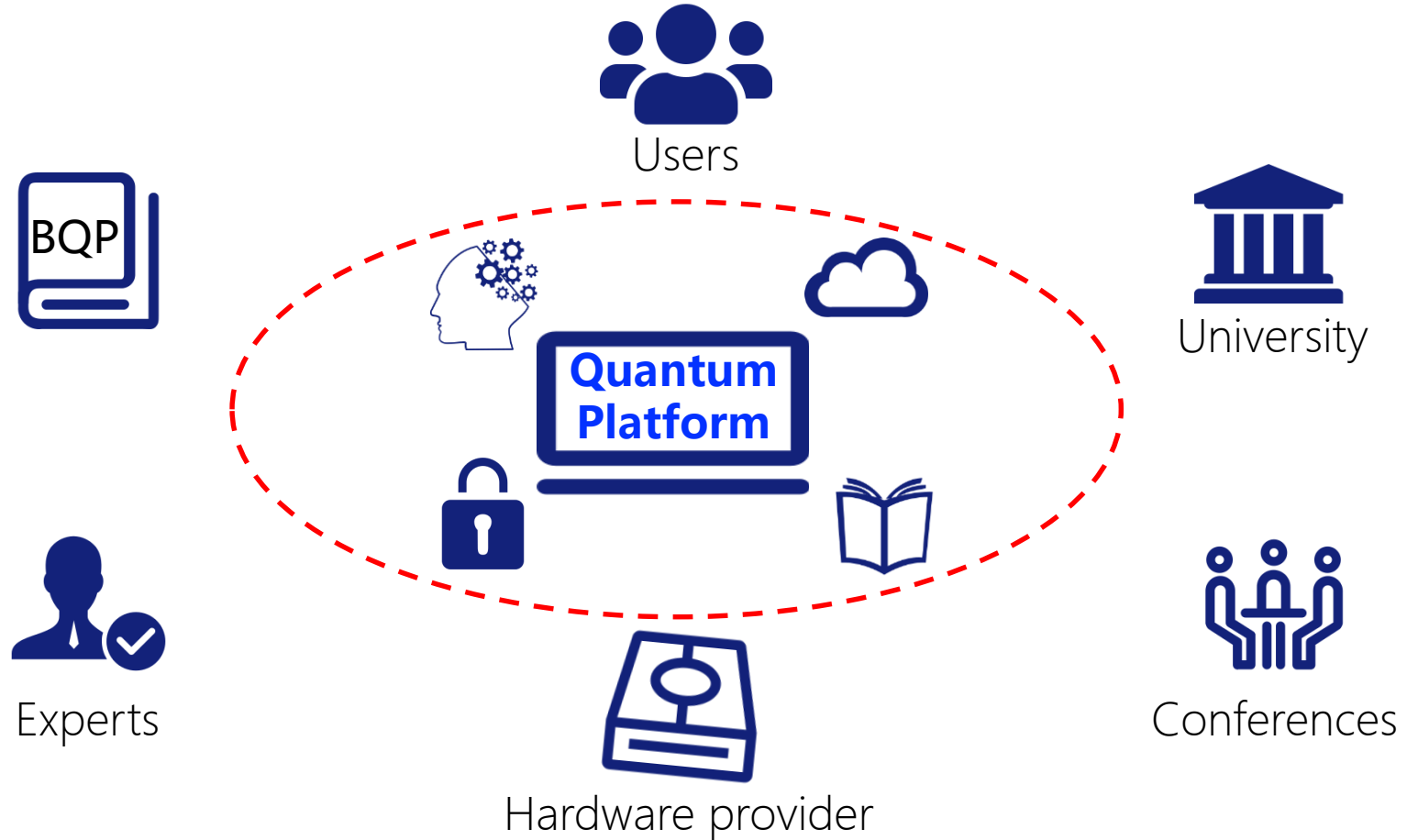
Pulse



Quantum Hardware

Simulator

Eco-system: open, sustainable



Challenges and Opportunities

Talents (Labor)	Resources (Money)	Patience (Time)
Interdisciplinary researchers strong in Quantum Mechanics, Mathematics, and Computer Science	More Investments in Quantum Algorithms, Quantum Architectures, and Quantum AI Applications.	This is an Information Technology Revolution. Nobody can escape. Take 10+Years.

Thanks!