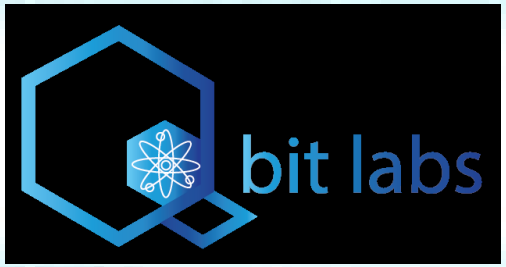
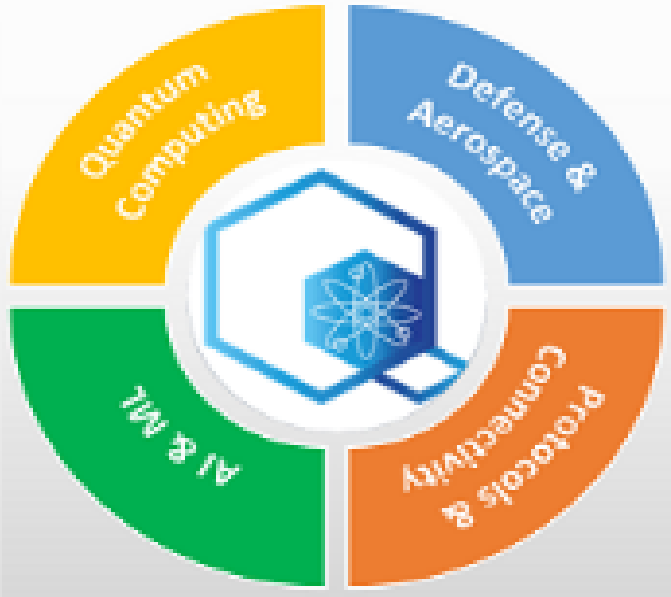
BUILDING ECOSYSTEMS FOR QUANTUM TECHNOLOGIES

PRADEEP KUMAR, TEC, MAR 2023

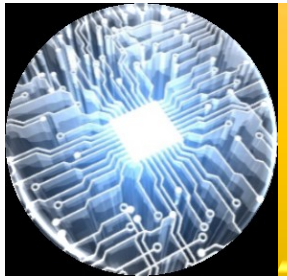


About Us

- R&D company by IIT Alumini
- More than a decade experience of technology development
- Wide FPGA based exposure in Emerging technologies – 5G, WiFi6, PCIe Gen6, USB, 400G Ethernet

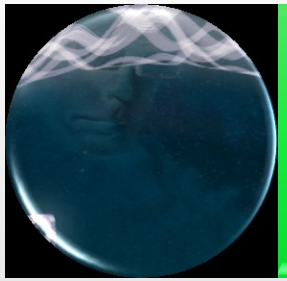


"Makes something possible through emerging technologies that simply isn't possible with a classical way"



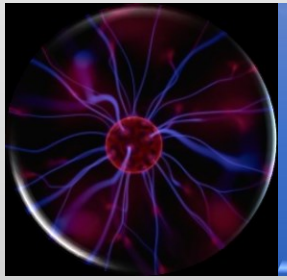
Quantum Computing

- Supporting Quantum Computing players
- AI/ML Applications



Quantum Cryptography

- QKD
- Q-Algo Implementation

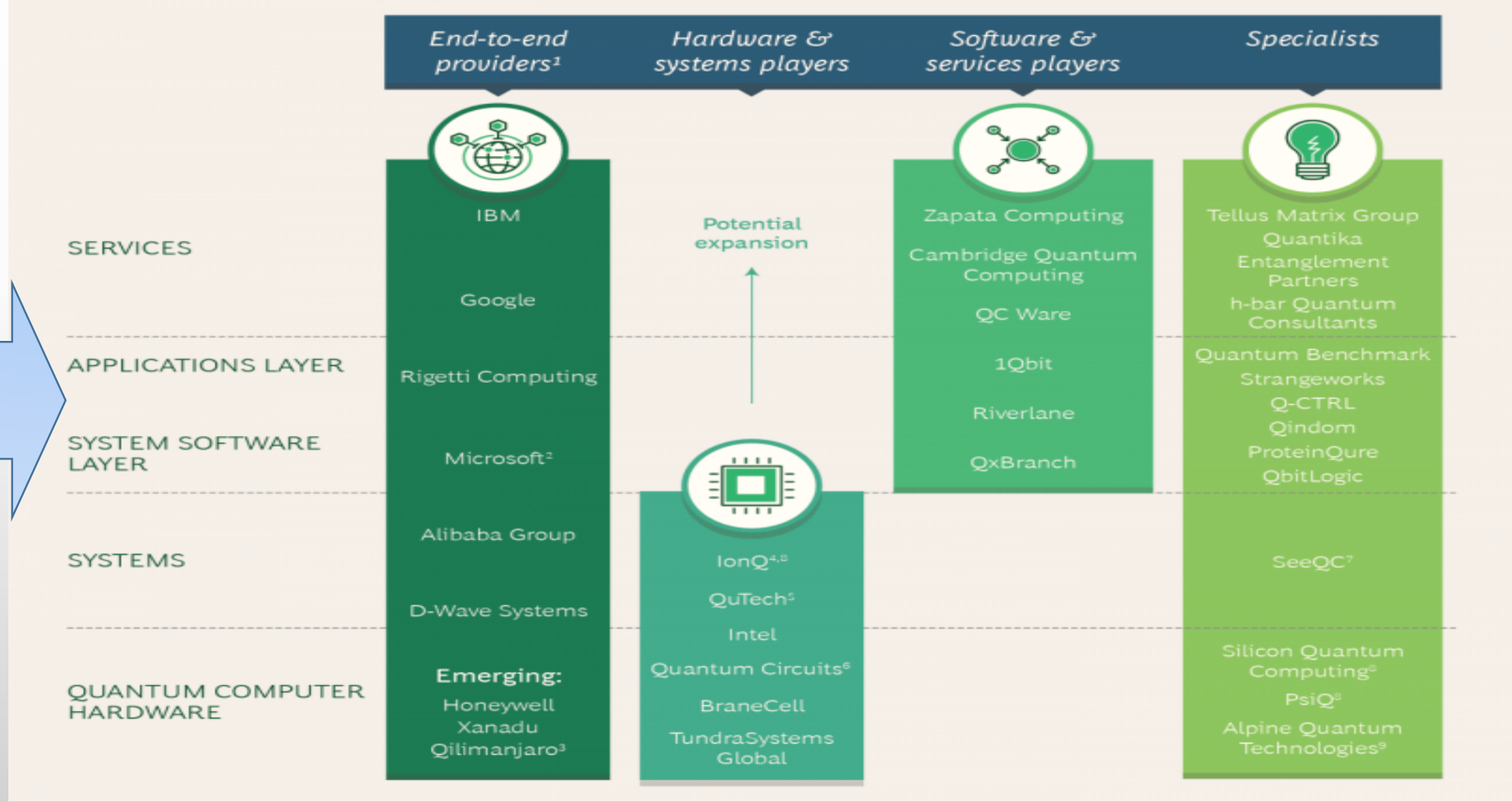


Quantum Communications

- Quantum Control Systems
- Q-FECs

Quantum Ecosystem – Global Landscape

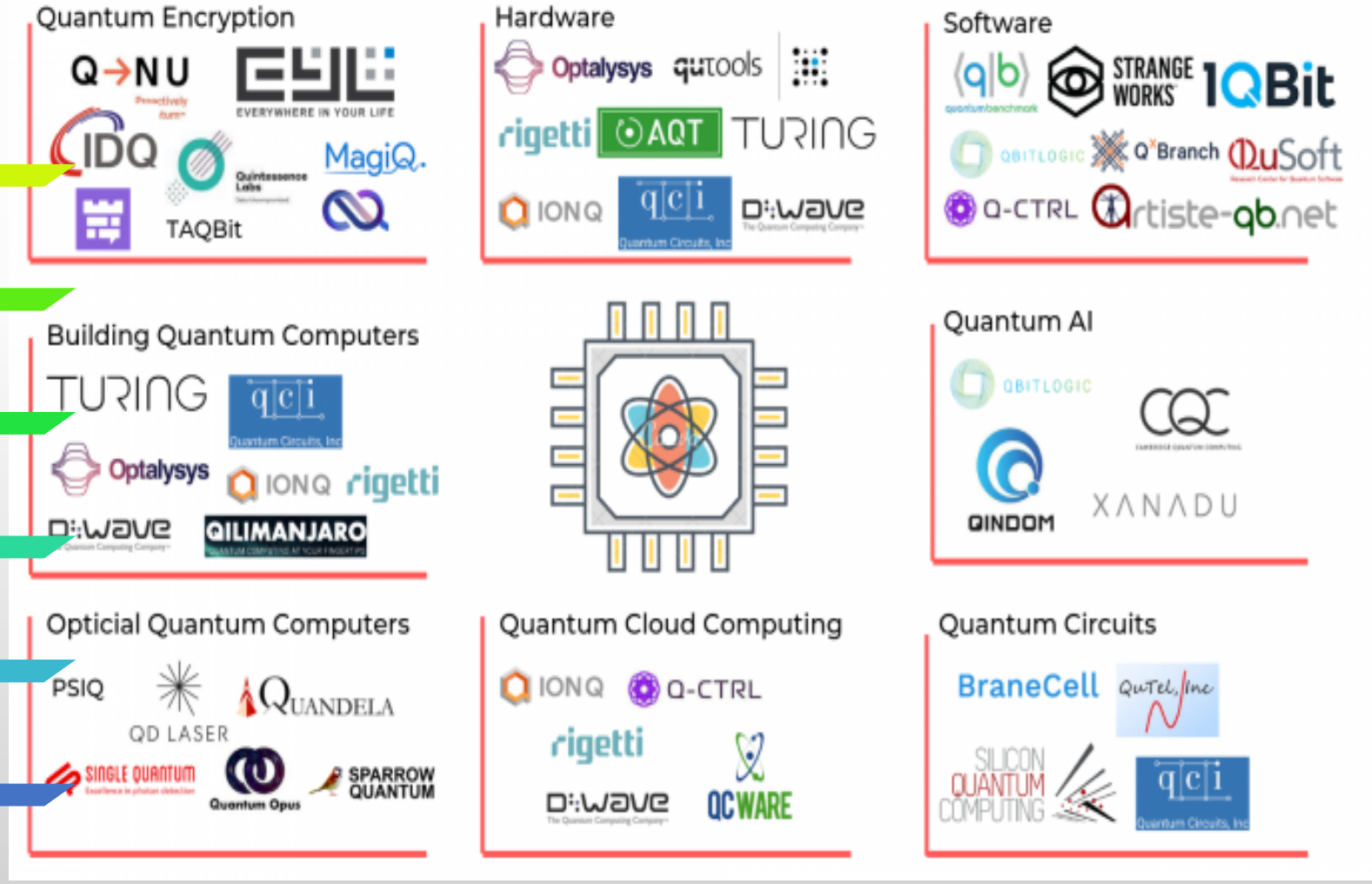
Major Players & their Segmented Portfolio



Quantum Ecosystem – Global Landscape

bit labs

- Quantum Encryption
- Quantum Hardware – Optical/Solid State
- Quantum Software
- Quantum Cloud Computing
- Quantum AI
- Quantum Circuits



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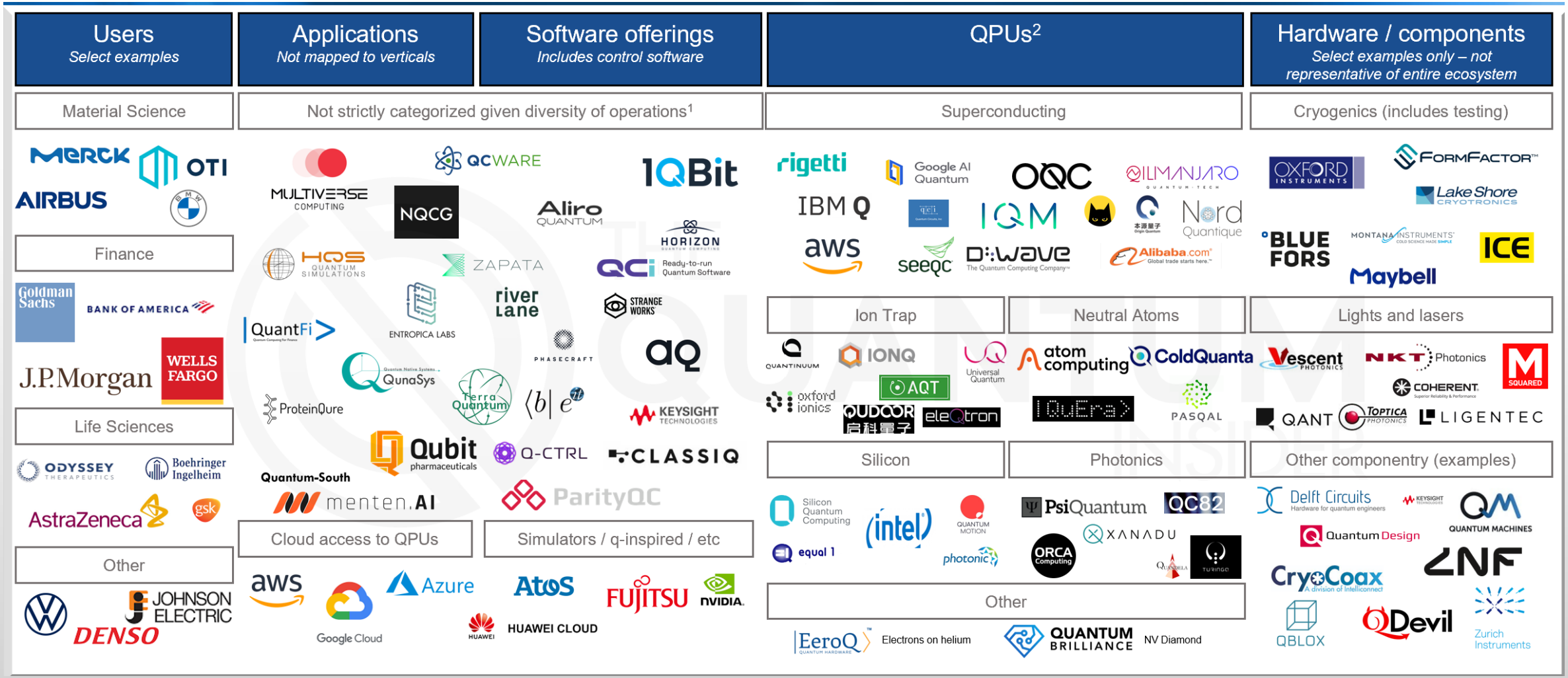
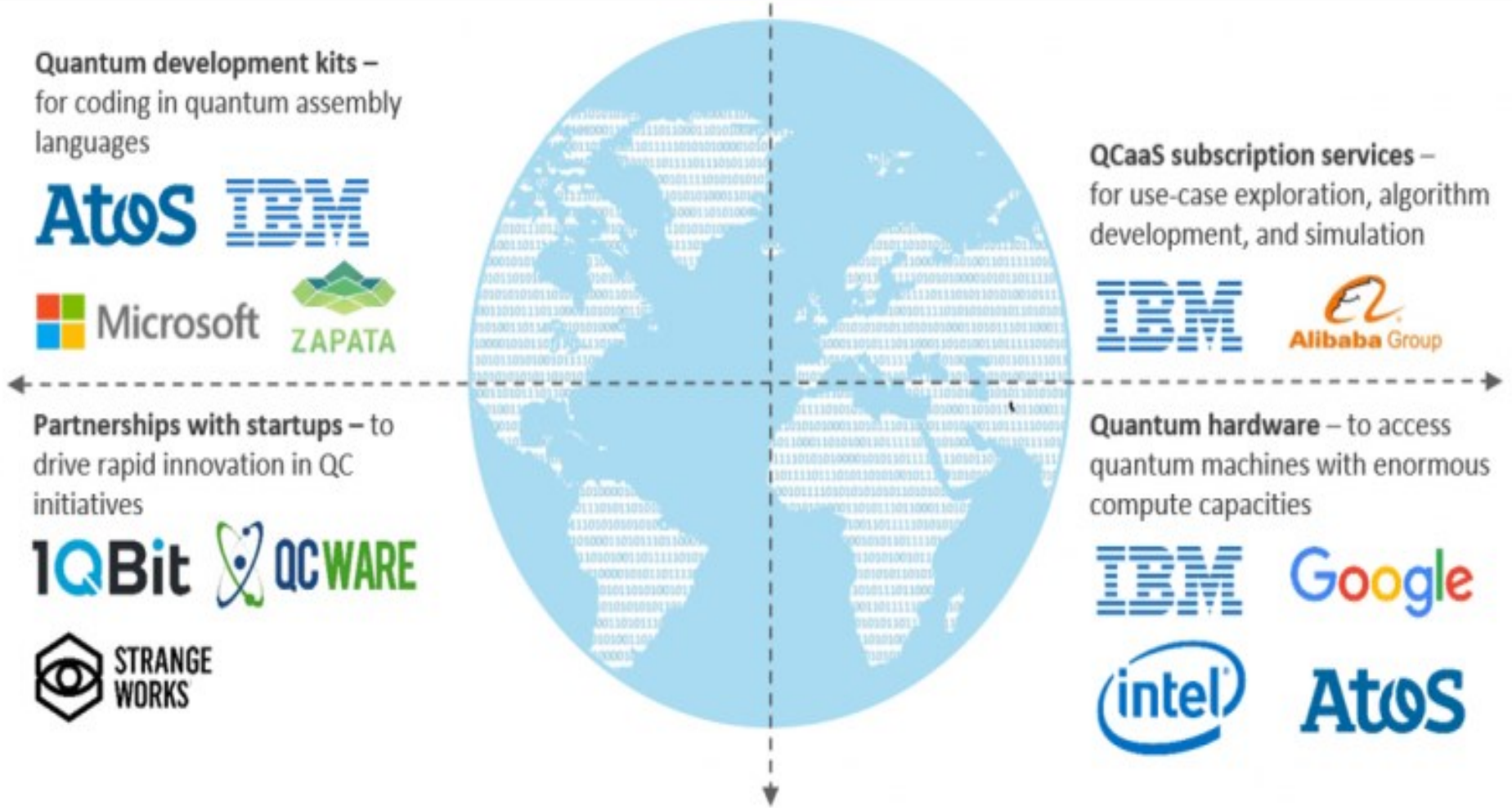


Quantum Ecosystem – Global Landscape



Indian Challenges & Advantages

Lack of Research Environment

Lack of HW systems

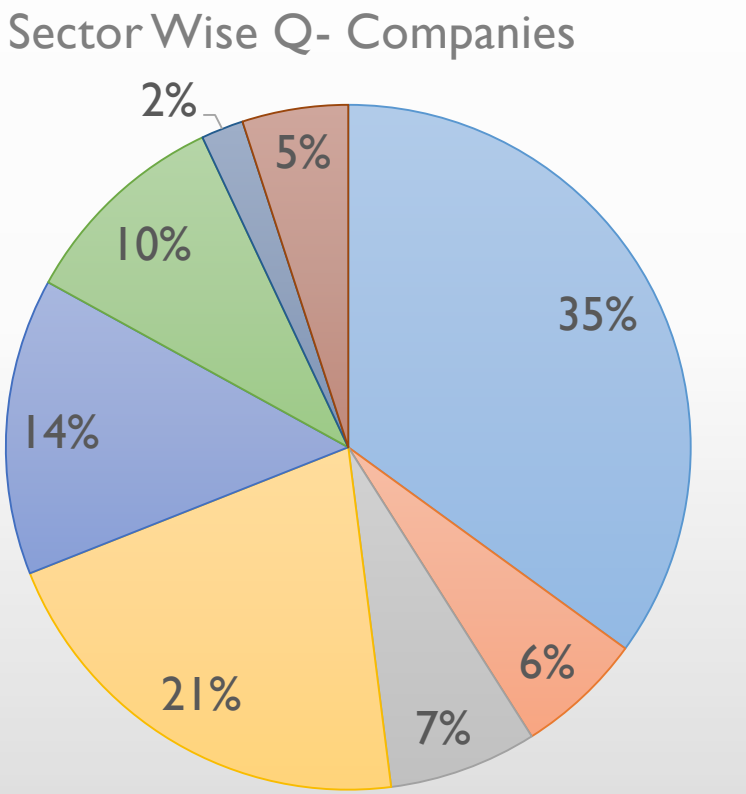
Limited Funds in R&D

Lower Priority in Technology

Favorable large demographic population

Good rapport – friendly relationships with major developed economies – US, UK, Europe, Japan, Etc.

Quantum Ecosystem – Workforce Oriented



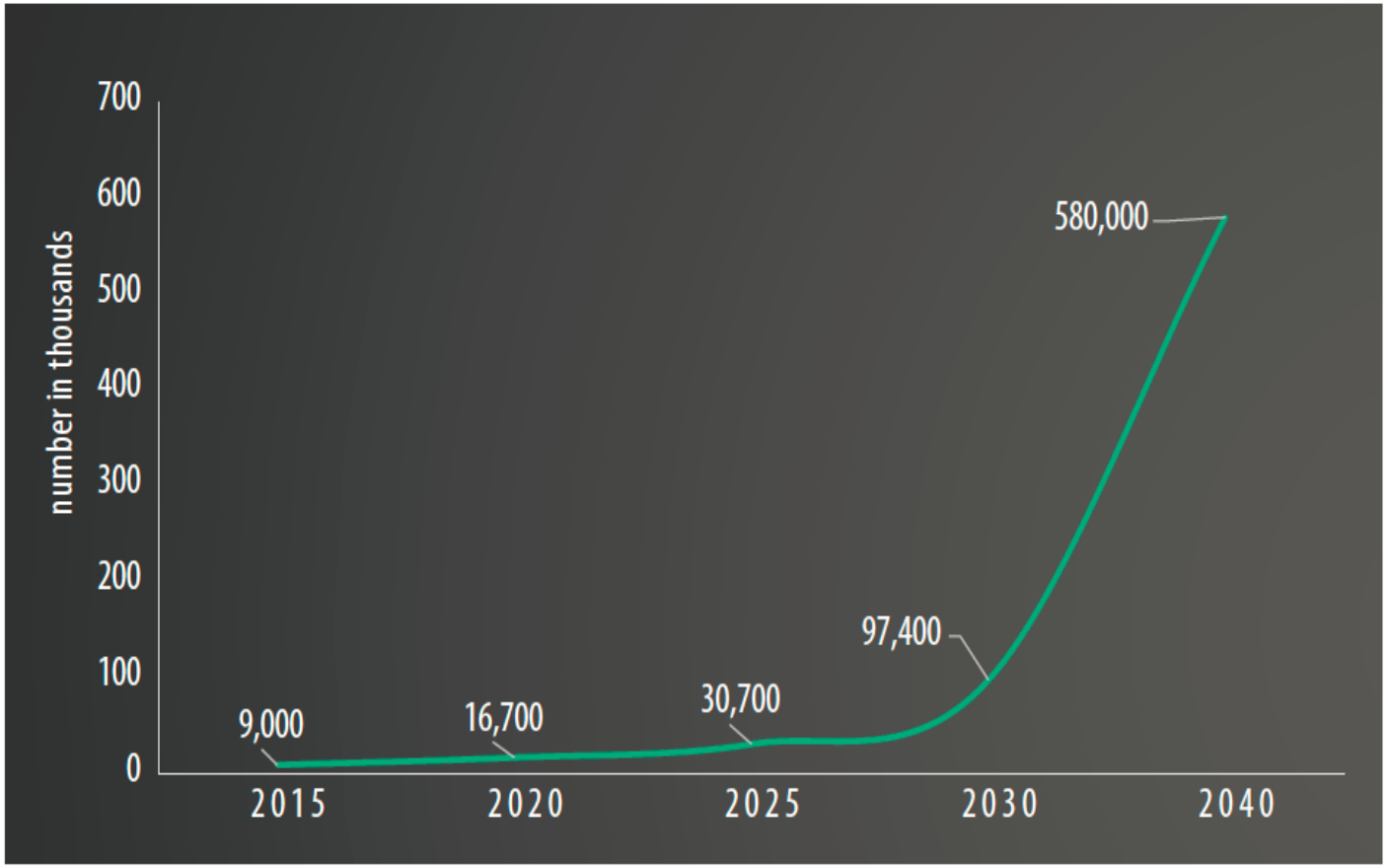


Fig. 4 Estimation of global number of jobs created for the quantum technologies market in the next two decades.

Conclusion ..Way Forward

- Skilled Manpower
  - Proven record in IT & Semicon
  - Prepare ourselves with Quantum engineering workforce
- Quantum Hardware
  - Technological Alliance with Global Players
  - Build Indigenized Quantum Computer – Large Investment
- Hardware Fabrication
  - Target End-2-End Q-computers – material to finished computer
- Political Thrust & Support
  - Movement in Quantum Mission
  - Priority Investment

THANK YOU