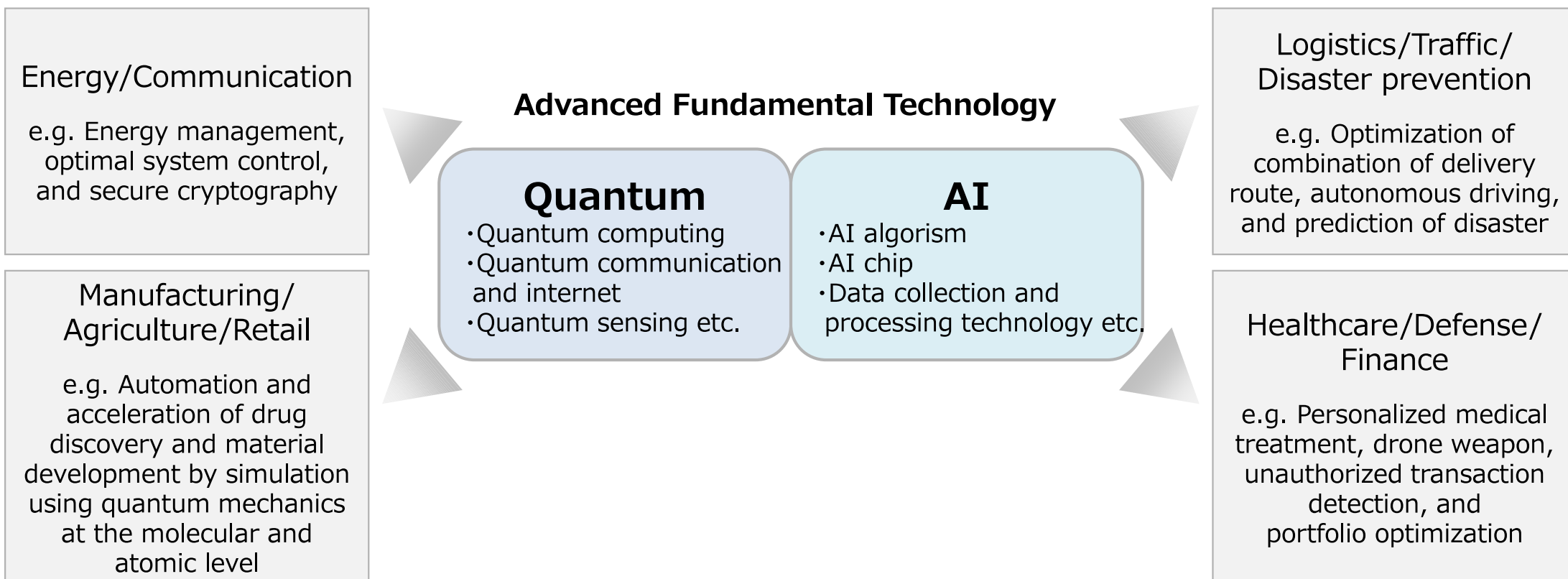


Strategy for Advanced Fundamental Technology (Quantum and AI) towards creating innovation

**Economic and Industrial Policy Bureau
Industrial Science and Technology Policy
and Environment Bureau**

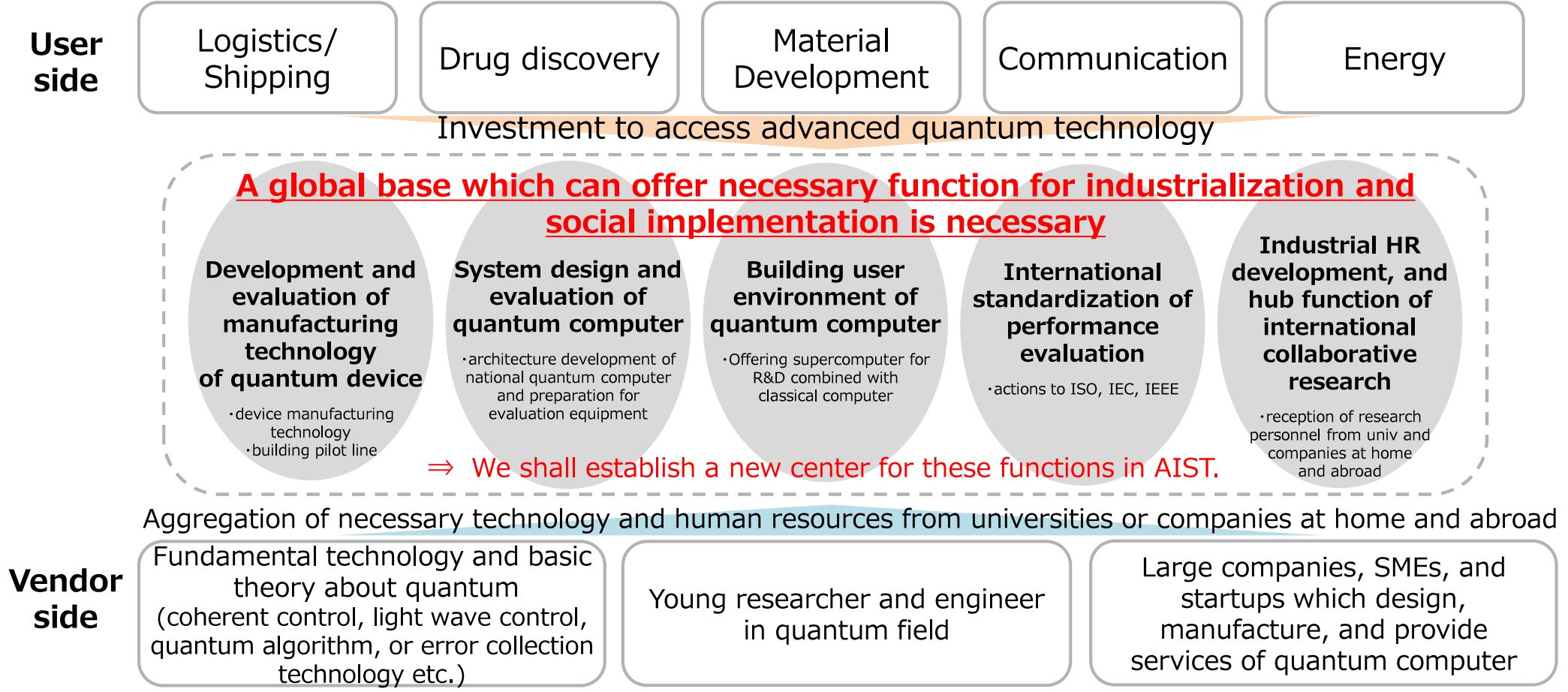
Current Status and Issues : Importance of Strengthening Competitiveness of Advanced Fundamental Technology (Quantum and AI)

- Quantum and AI are fundamental technologies of DX and digitalization, which bring whole economic and social structural reform by dramatically improving calculation speed and enhancing data usage, and realize new industry creation, improved productivity, carbon-neutral society, and safe livelihood of the people.
- The issue is how Japanese companies can secure competitiveness of these fundamental technologies from development to implementation, which not only relates to the competitiveness of that industry, but also competitiveness of the entire Japanese economy.
- On the other hand, learning from the past practice of losing in implementation whilst winning in technology in semiconductor industry, the issue here is to find the “winning strategy”.



New Direction : Public-private Strategy for Quantum Computing

- In order to socially implement quantum technology and create a market which autonomously grows through private investment, it is necessary to start the development of applications, supply chains, human resources, and standards from an early phase while anticipating industrialization.
- To induce investment to the quantum field with high uncertainty, a global center of industrialization that enables access to technology, knowledge, or networks for the long-term is necessary.



New Direction : Public-private Strategy for Next-generation AI Technology

- An environment that allows access for Japanese companies to technologies of algorithm, calculation resources, and data collection at the global level is necessary for developing applications in the cyber-physical area.
- On the other hand, there is a shortage in research HRs who bridge between next-generation AI technology and companies, which is necessary to implement AI in real businesses. We shall engage in developing such talents.

