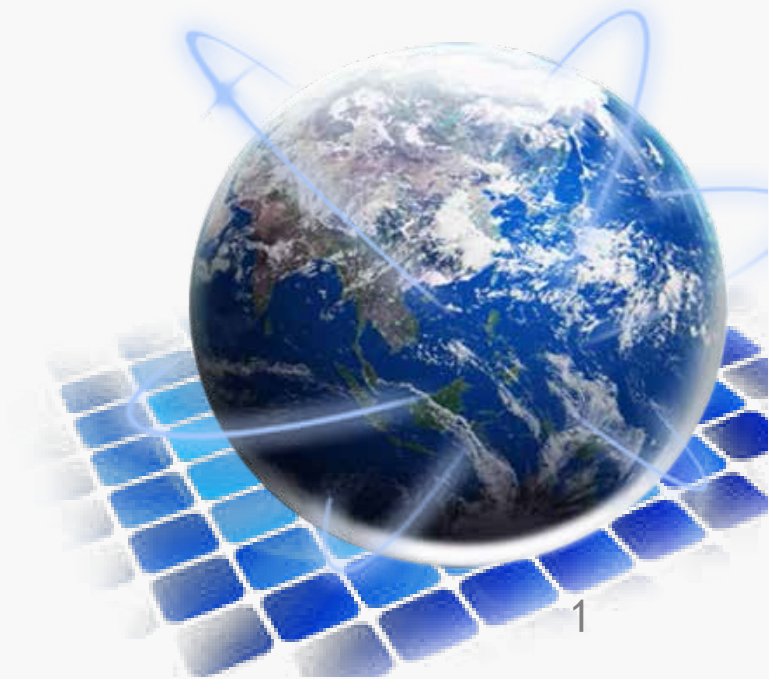


# Satellite-Ground Integrated QKD networks

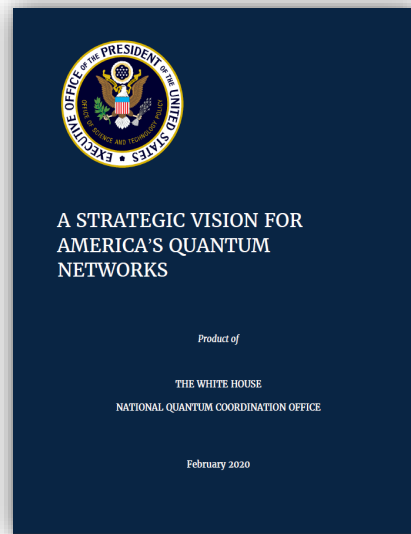
Jimin Nie

CAS QUANTUM NETWORK Co., Ltd

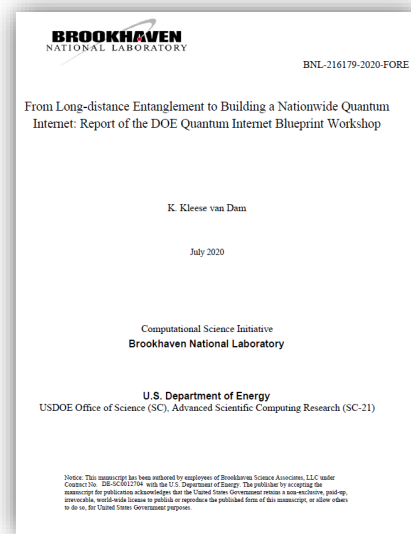


# Quantum information technology has attracted worldwide attention

USA



Strategic vision for  
America's quantum  
networks



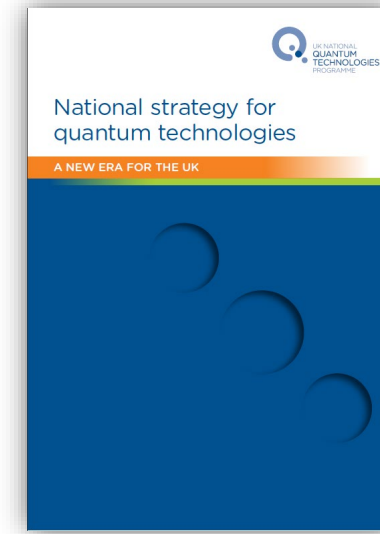
Quantum Internet  
Blueprint

EU



Quantum Manifesto

UK



National strategy for  
quantum technologies

# China has attached great importance to the development of quantum information technology

**Overall  
Arrangement**

**“National Innovation-driven  
Development Strategy Outline”**

**Industry**

**“Development Plan of the  
Yangtze River Delta City Cluster”**

**“The 13th Five-Year Plan on  
informatization”**

.....

**Technology**

**“The 13th Five-Year Plan on  
Technology and Innovation”**

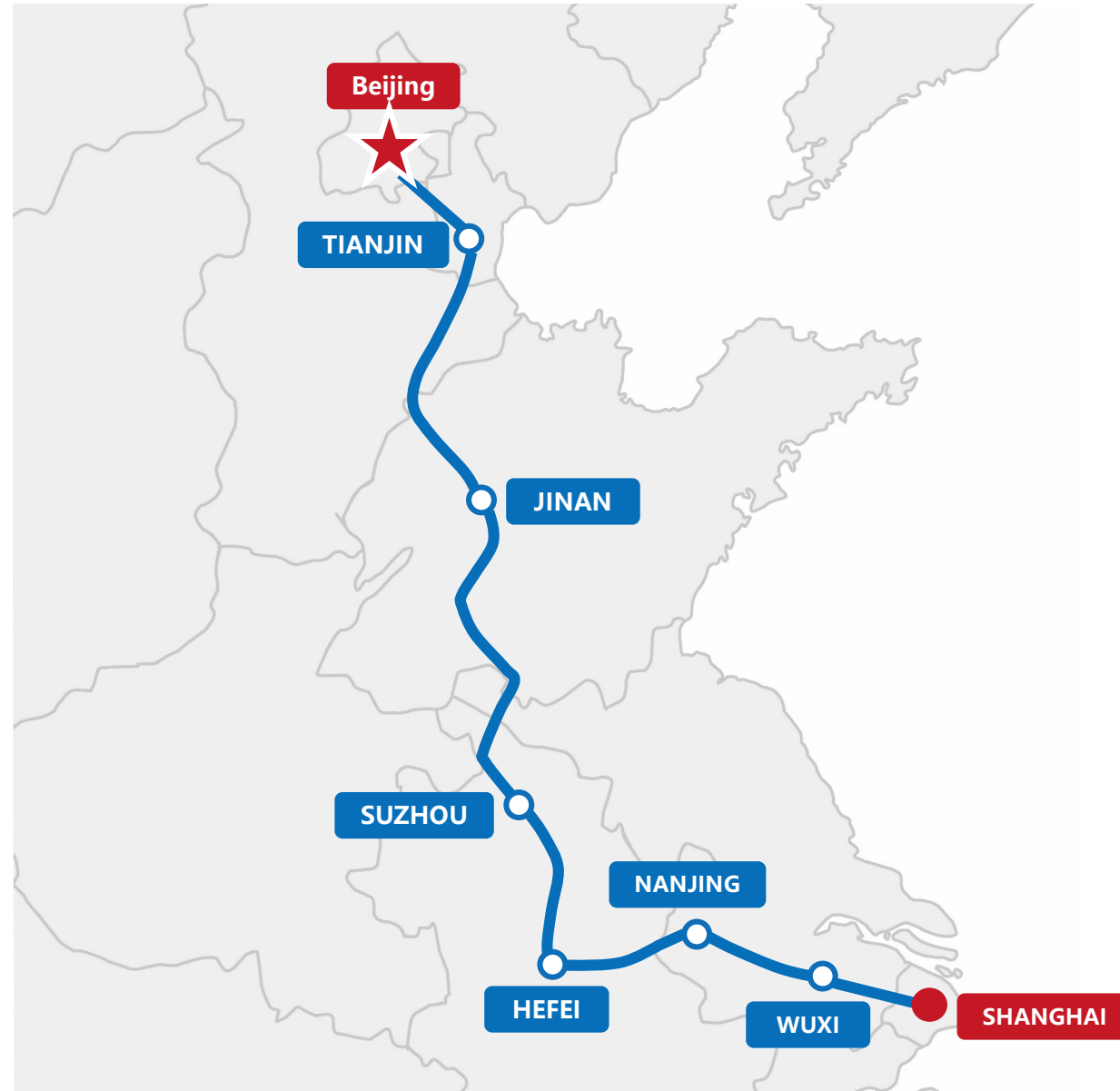
**“The 13th Five-Year Plan on  
basic research”**

# The Beijing-Shanghai backbone network

**Commencement Date**  
July 2013

**Completion Date**  
December 2016

**Total Line Length**  
2000 KM





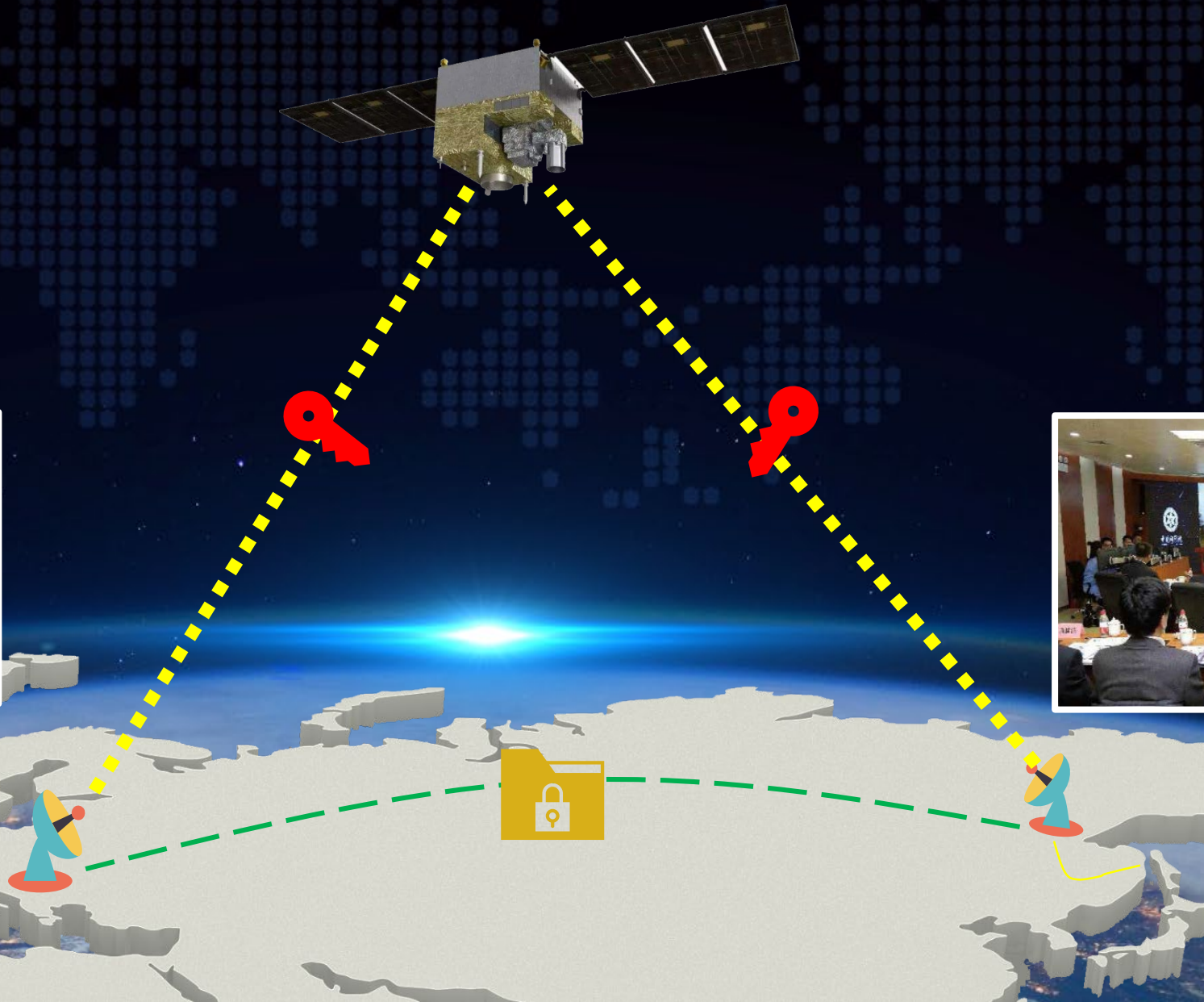
# The "Micius" Quantum satellite



Vienna



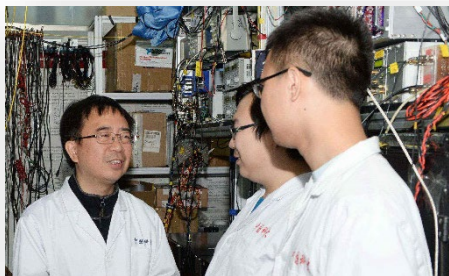
Beijing



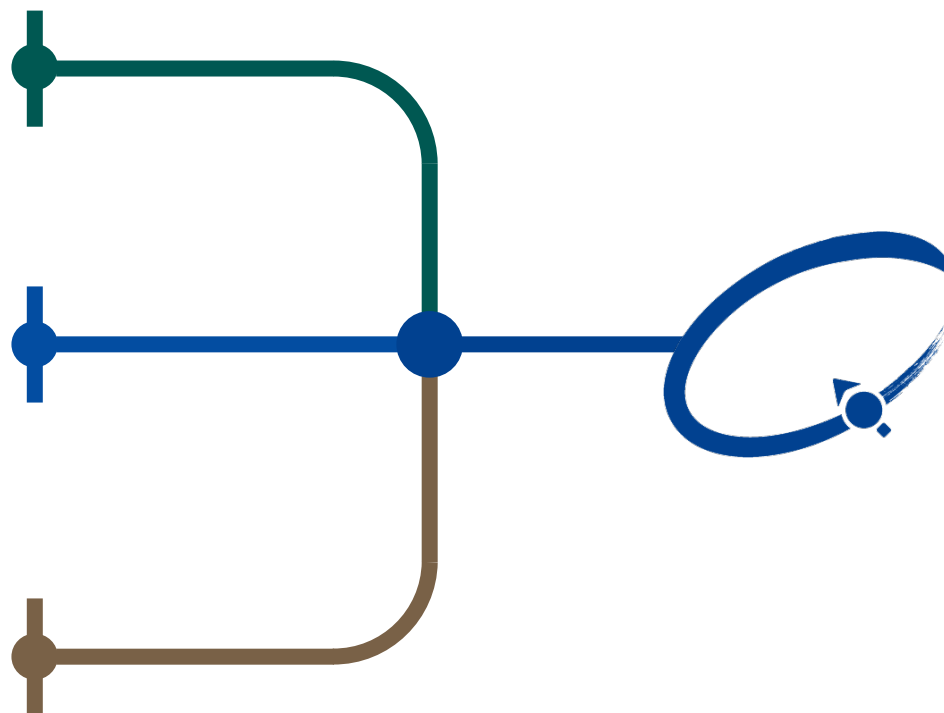
**CASH** 国科控股  
CAS HOLDINGS



中国科学技术大学



The Team of  
Academician  
Jian-Wei Pan



量子网络  
QUANTUMNET

# National Wide-area Quantum Secure Communications Backbone Network



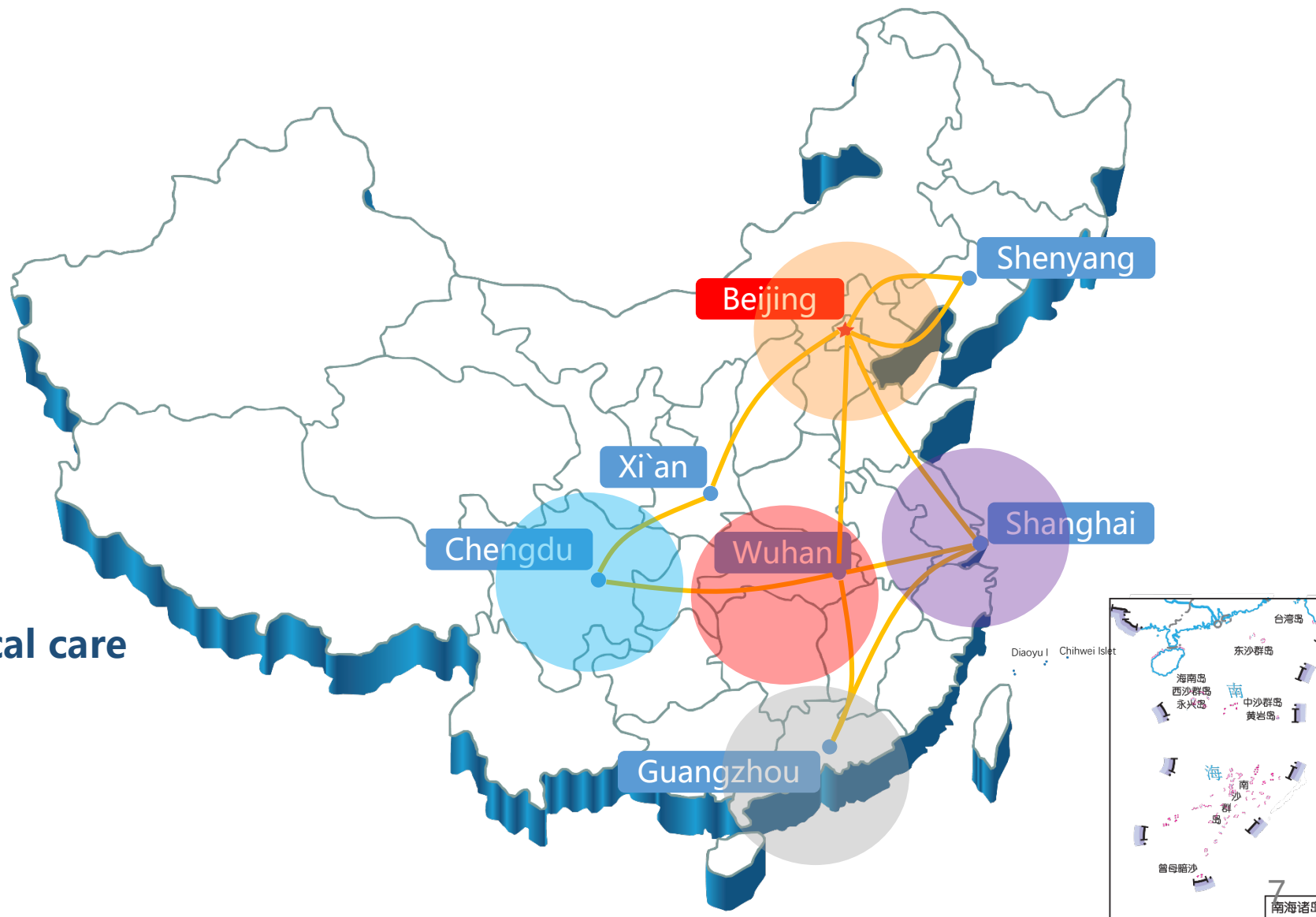
Finance



Customs



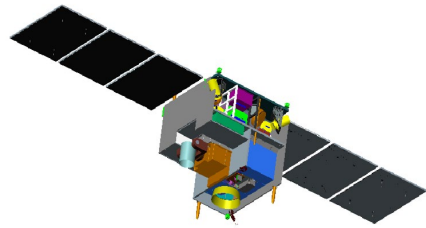
Health and medical care





# Satellite-based Quantum Network

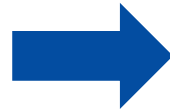
Micius



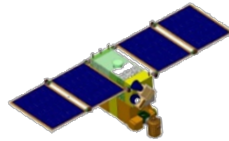
- Weight: ~640kg
- Power: ~560W
- Frequency: 100MHz



- Weight: ~10 Tons
- Power: ~60kW



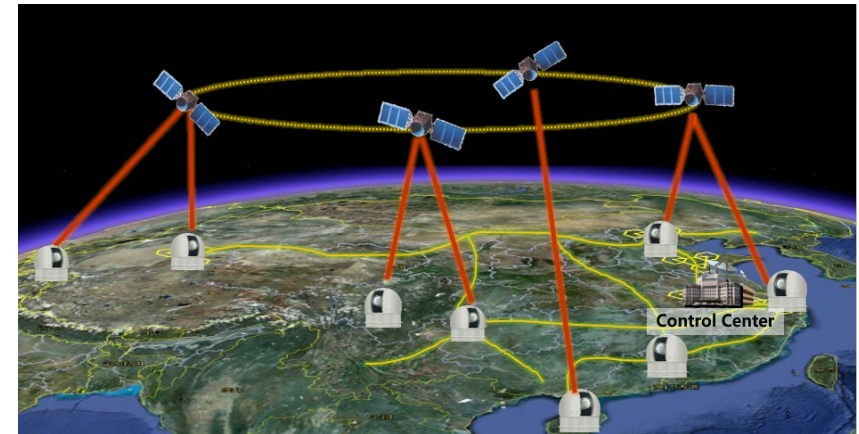
Micro Quantum Satellite



- Weight: ~100kg
- Power: ~100W
- Frequency: >300MHz



- Weight: ~100kg
- Power: ~300W



## Our Plan

- ~2022: 2 Satellites, 10 Ground Station
- ~2030: 5~8 Satellites, 100 Ground Station





- **Becoming a leading international quantum security service provider**
- **Paving the way towards the future quantum Internet**

# Thanks