# Foundational Quantum Technology SQST QUANTILITY OF THE CONTROL OF and Quantum Life R&D Hubs (QST)



### 1. Mission

Strengthen QST's R&D infrastructure, play a central role in the R&D for and supply of key materials for quantum devices, and take the lead in the R&D for and application of quantum life technologies as the integration of quantum technology with life science and medicine.

## 2. Activities

Through the application of quantum technology to medicine and industry, we contribute to the resilience and sustainability of a diverse society where the safety and well-being of all is ensured.

Establish testbed environments to accelerate the use in wide range of fields, promote the applications, industrialization and human resource development through industry-academia collaboration

# Foundational Quantum Technology

Takasaki Institute for **Advanced Quantum Science** (Takasaki, Gunma)



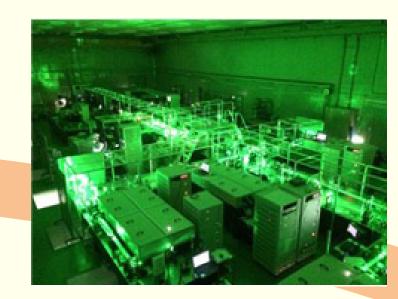


- Development and Supply of Advanced Quantum Materials
- Construction and Operation of Open Platform for Industry

Based on materials science, spintronics, photonics, electronics, quantum beam and other technology, this hub develops and supplies quantum materials that demonstrate advanced quantum functions.

#### **Kansai Institute for Photon Science** (Kizugawa, Kyoto)

 Development and Application of Spin Control Technology using Advanced Lasers



SPring-8 (Sayo, Hyogo) NanoTerasu (Sendai, Miyagi)



 Advanced Evaluation of Quantum Materials and Devices

#### Satellite Labs.



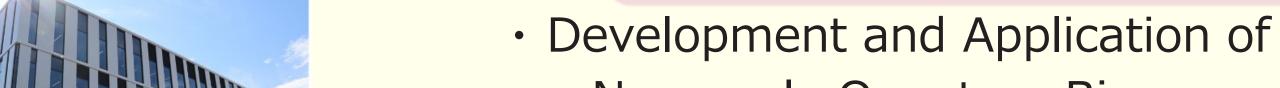


 Construction and Operation of Open Platform for Industry

# Quantum Life R&D

This hub develops cutting-edge base technologies for life science and medicine, such as quantum biosensors, and provides animal experiment facilities where they can be used. Open Open

**Human Resources Development** 



- Nanoscale Quantum Biosensors
- Hyperpolarized MRI/NMR

Elucidation and Biomimetics in Quantum Life Science

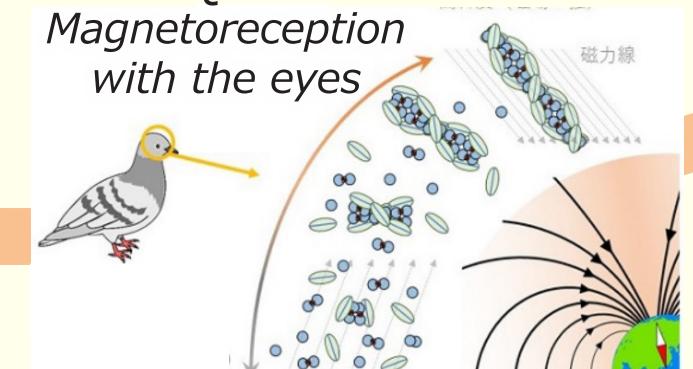
**Institute for Quantum Life** Science (Chiba City, Chiba)

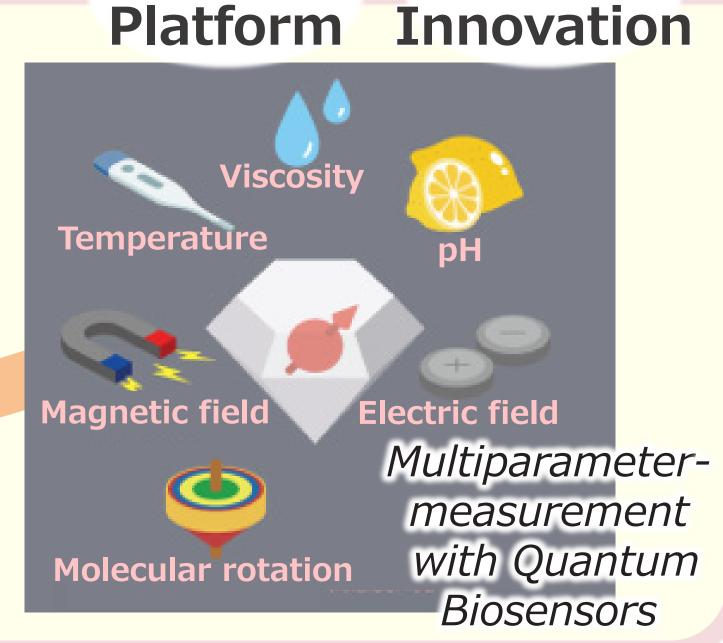
**Test Bed Equipment** 

- ODMR Microscopes: 9 units
- Hyperpolarized MRI/NMR: 6 units
- Advanced Spectroscopy **Equipment: 3 units**

**Neutron Facilities** for Life Science (Tokai, Ibaraki)

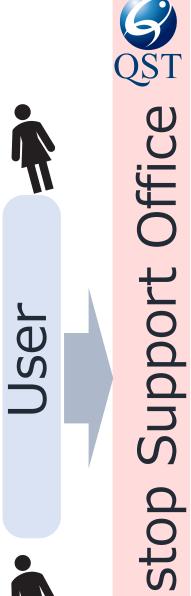






#### **Support Programs for Industry**

We provide education, consultation, and environment for trials on quantum technologies through a one-stop support office in QST.



#### 1 Technical Consulting

A quantum technology advisor will respond to your questions and consultations.



为几记

#### 2 Trial by Testbed

We prepare testbeds where you can actually experience measurements using solid-state quantum sensors.



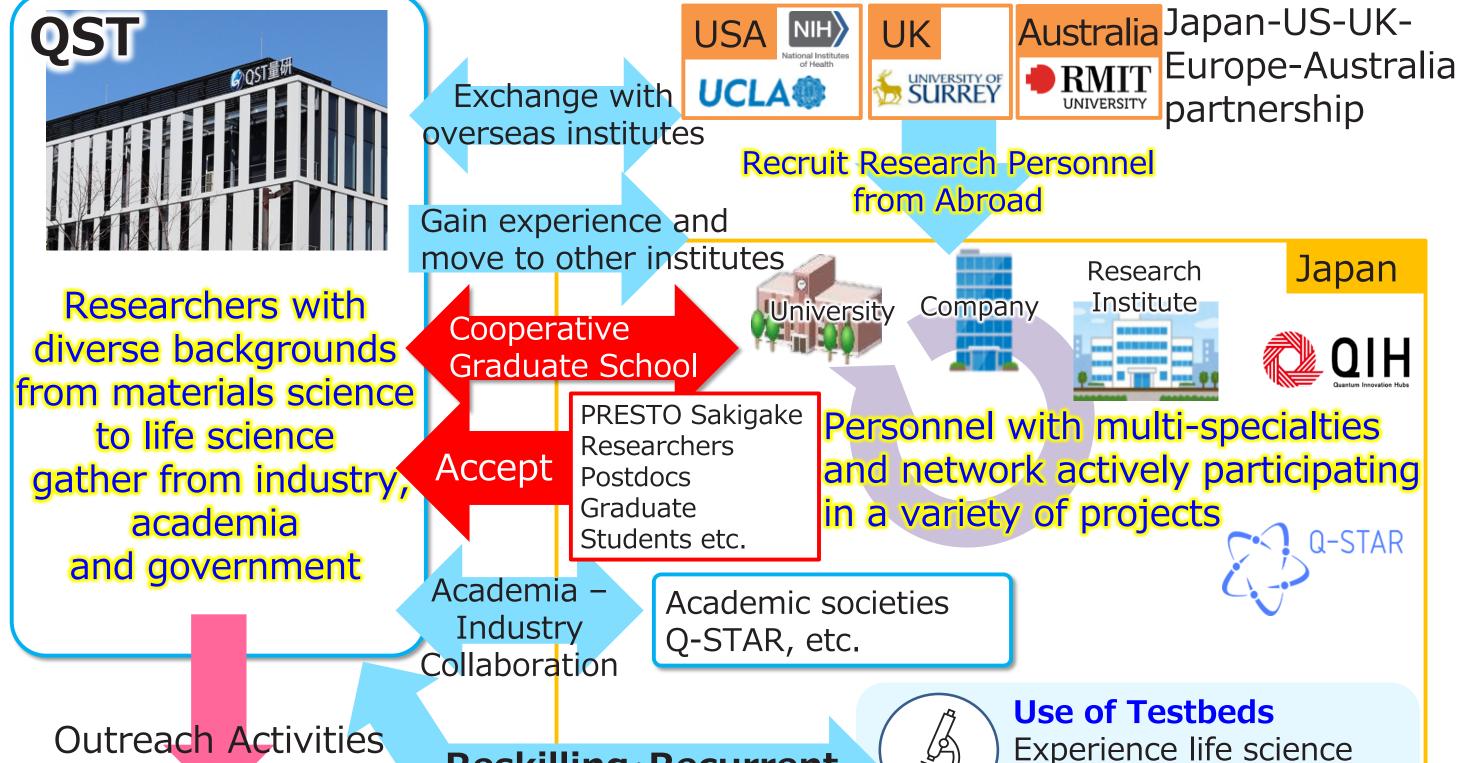
#### **3 Education**

We have educational training programs for corporate researchers, engineers, and young scientists.



#### **4** Consulting for Collaboration

We will respond to consultations regarding NDA, research collaboration, patent application, etc.



Outreach Activities

Nurture Quantum

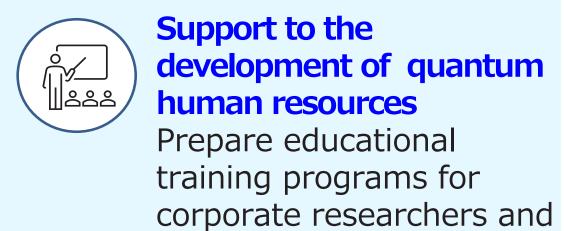
Natives.

#### Reskilling · Recurrent Education

Young researchers

with multiple

quantum specialties



**Support to the** development of quantum human resources Prepare educational training programs for

technologies

engineers