

# **Memorandum of Cooperation on the area of quantum science and technology between Denmark and Japan**

## **Introduction**

1. Recognizing that Denmark and Japan are both leaders in quantum science and technologies and have strong and diversified science, technology, and innovation relations, with extensive collaborations between academia, industry, and government.

## **Joint Statement**

2. Recalling the Joint Leaders' Statement on the Deepening of the Strategic Partnership between Japan and the Kingdom of Denmark from October 2023. A statement that underlines the importance of further collaboration between the two countries to promote concrete initiatives on science, research, and advanced technology collaboration and the application of new ideas and innovation in society, particularly in areas such as quantum technologies.

3. Recalling the renewal of the Memorandum of Cooperation on science, technology, and innovation between Denmark and Japan from October 2023. An instrument that sets out the ambition to strengthen our cooperation on science, technology, and innovation within a range of areas of mutual strategic importance. Prominent among these are quantum sciences and technologies.

## **Potential of quantum technologies**

4. Understanding that quantum sciences and technologies – applying quantum mechanics to explore new ways to enable sensing, secure transmission, and processing of information – could lead to the development of transformative uses such as powerful computations, secure communication, and more precise and accurate sensing and timing capabilities with potential applications in sectors such as life science, logistics, energy, security, and defence.

## **Partnerships and collaboration**

5. Recognizing that, to support the growth of our quantum ecosystems, fostering partnerships with key international allies and ensuring effective collaboration between academia, industry, and government, is critical.

## **Harnessing societal benefits from quantum**

6. Considering that, given the advanced state of our ecosystems in areas such as green transition, logistics, life science, and medical research, there could be particular interdisciplinary opportunities to harness the early benefits of quantum technologies in these sectors.

## **Joint values and guiding principles for development of quantum technologies**

7. Acknowledging that cooperation between like-minded partners, grounded in shared principles such as transparency, accountability, enforcement of intellectual property, and democratic ideals in general, is vital in order to support an equitable research environment and combine the expertise of our countries.

## **Emerging industry, support, and commercialization**

8. Recognizing that the coming years will be critical for the emerging quantum industry, and that we intend to support initiatives and knowledge generation that serve to accelerate research and development, commercialization, and the overall growth of our quantum sectors.

## **Strategies, commitment, funding, and cooperation**

9. Following the recent adoption of ambitious National Quantum Strategies by Denmark and Japan respectively, that underline the enhanced political commitment and support in the area, we intend to pursue cooperation by:

### **Dialogue on research and innovation**

- a. Promoting dialogue between Denmark and Japan within all levels from fundamental research to applied research and innovation – to share best practices and identify future opportunities in academic research collaboration, including but not limited to quantum computing, communication, and sensing;

### **Interactions, academia/private sector, and funding opportunities**

- b. Facilitating interactions between academia and the private sector from both countries, e.g. by organizing delegations to support the identification of possible avenues for collaboration;

### **Education, exchange, talent, and skills**

- c. Exploring educational initiatives and exchange opportunities, at research and apprentice levels to build the talent and skills base needed for the further development of the quantum ecosystems and the workforce;

### **Security policy dialogue and governance**

- d. Recognizing quantum technologies as emerging and disruptive with implications for the societal resilience and national and economic security of both countries;
- e. Fostering bilateral and multilateral opportunities to discuss security and governance policy issues on quantum science including growing a trusted international research community, collaboration for a responsible use of quantum technology, research security, investment screening, export controls, standardization, and resilience;

### **Infrastructure, test-facilities, and missions**

- f. Considering opportunities for shared access to research infrastructure and test-facilities for the purpose of strengthening research in advanced

materials, use case development, and technological demonstration, validation, and maturation;

**Commercialization, use cases, and scale up**

- g. Accelerate the commercialization of quantum technologies by promoting promising innovations through use case development, demonstration projects, and similar initiatives aimed at advancing the development of practical market solutions;

**Private funding, industry, and institutional investors**

- h. Facilitating efforts to increase the level of private funding and investment in the quantum sector by engaging with industry consortia, foundations, and institutional investors.

Signed at Tokyo, Japan, in two (2) originals, on this day of 9<sup>th</sup> January 2025.



**For the Government of Denmark**

**Christina Egelund**

**Minister for Higher Education and Science**



**For the Cabinet Office of Japan**

**KIUCHI Minoru**

**Minister of State for Science and Technology Policy**