Engineering and Physical Sciences Research Council

Japan Science and Technology Agency

# Japan-UK Joint call for Quantum Technologies for Innovation (JST-EPSRC) - Webinar

Monday 3rd March 2025

10:00am-11:30am

# Welcome to EPSRC Webinar for Japan-UK Joint call for Quantum Technologies Innovation

- Technical difficulties: email quantumtechnologies@epsrc.ukri.org
- **Please wait for the end of the presentation before submitting questions**
- Submit questions through the **Q&A function** (there is no open chat)
- Individual specific questions: please email us directly at quantumtechnologies@epsrc.ukri.org and we can arrange a one-to-one meeting.
- Webinar **is not being recorded**: we will publish an FAQ on the funding finder page in the coming weeks and a copy of the slides will be made available for reference.
- **Full details of the call are on the funding opportunity page** Japan-UK Joint opportunity for Quantum Technologies for Innovation – UKRI

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# Call Introduction

# Background

- The preannouncement was published in November 2024, and we held a networking fair in December 2024 for **Japan-UK Joint call for Quantum Technologies for Innovation**. Both activities were undertaken to ensure there was ample opportunity and time for prospective applicants to interact and consider potential collaborators in Japan and the UK.

- This call is open to applications from UK applicants, you must be based at a UK based research organisation eligible for Engineering and Physical Sciences Research Council (EPSRC) funding.

- Applicants in Japan must meet the Japan Science and Technology Agency (JST) eligibility requirements. Japan based researchers should be conducting research at a research institution (university, independent administrative institution, public experimental research institution, public-interest corporation, or company) within Japan.

- EPSRC is part of the UK **National Quantum Technologies Programme**.

- Quantum Technology research and innovation continues to be a UK government priority area and is one of three of EPSRC mission driven priorities set out in the **EPSRCs strategic delivery plan 2022 to 2025**.

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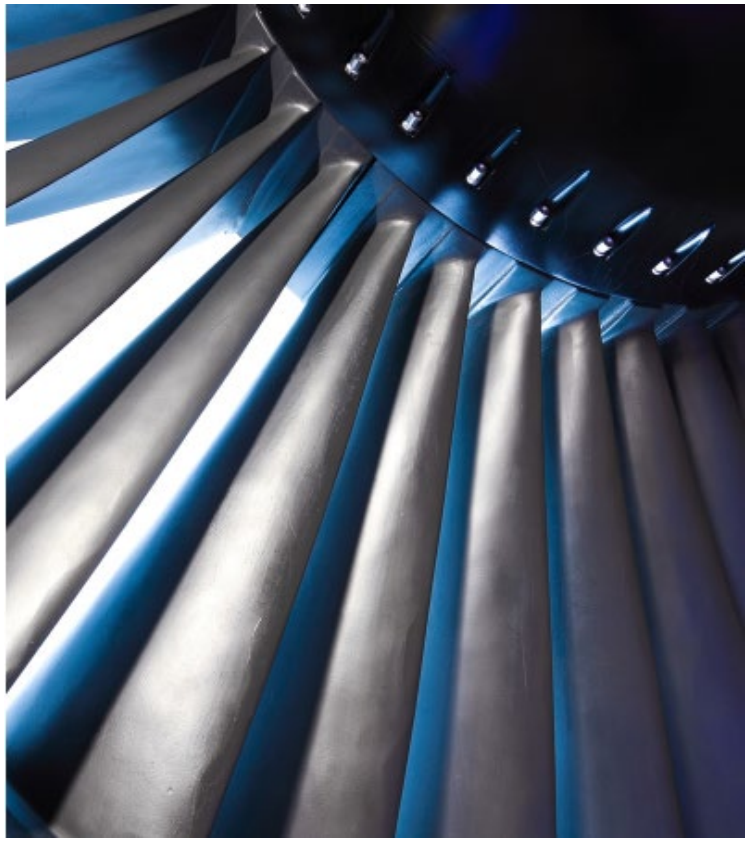
# Aim of the Call



- Based on the implementation principles of the ASPIRE program in Japan, this partnership programme aims to support internationally competitive collaborative research projects between Japan and the UK focusing on the development of quantum technologies, creating leading international researcher networks, and nurturing early career researchers to build a thriving quantum sector in both countries.
- Quantum Technology research and innovation continues to be a **UK government priority area** and is one of three of EPSRC mission driven priorities set out in the **EPSRC strategic delivery plan**.
- EPSRC recognises that research is a global endeavour, working with international partners to address shared priorities and ensure that the UK remains a world leader in engineering and physical sciences, and at the forefront of collaborating on global challenges including the development of quantum technologies.

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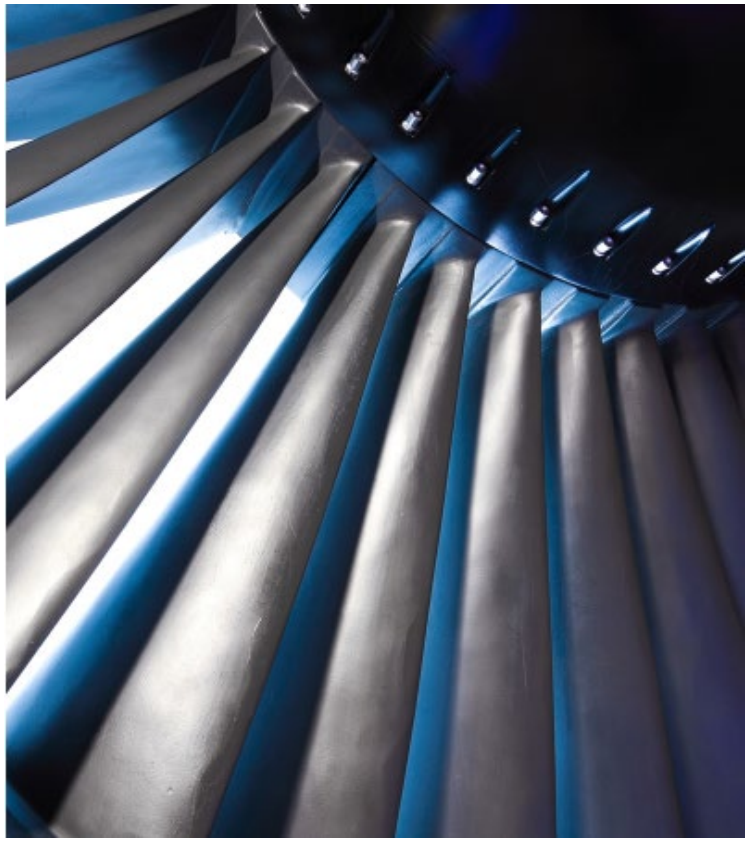
# Aim of the Call – Expected Outcomes



- The aim of this call is to fund world-leading partnerships with collaborators in Japan.  This international joint funding opportunity will support research projects in the field of Quantum Technologies.
- In this joint funding opportunity, researchers from Japan and the UK are asked to leverage each other's strengths and address their weaknesses by collaborating internationally. The goal is to drive advancements in quantum research and produce new technologies that will further the development of the field.
- The funding opportunity specifically aims to encourage the development of academic communities and researcher networks to build collaborative research ecosystems. These ecosystems will form the foundation for sustainable quantum research between Japan and the UK by facilitating long-term research efforts and talent exchange and mobility.

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# Call Timeline

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## Timeline (2024-2025)

**November**

Preannouncement 19th November 2024

**December**

Networking Fair 6th December 2024

**January**

**February**

Call goes live 13th February 2025

**March**

**April**

JST Prior Notice 24th April - Japan based applicants

**May**

EPSRC Call closes 4pm 8th May 2025, JST submission deadline 9th May 5am UK time

## Timeline (2025-2026)

**June**

**July**

**August**

Peer Review

**September**

Prioritisation Panel

**October**

Call outcome notifications

**November**

**December**

**January**

Funded projects to start from January 2026 onwards

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# Call Scope

## Please refer to the call document for full details

# Scope of the Call

- Applications **can be related to one or more of the scope areas listed** below are encouraged, **but submissions are not limited to scope areas alone**.
- **All proposals must include plans for promoting international talent mobility and circulation of researchers**. All proposals are also expected to contribute to the development of quantum technologies through the collaborative efforts between the researchers in Japan and the UK.

**Scope Areas:**

1. **Research into quantum communication and quantum computing to enable ultra-high-speed and massively increase parallel information processing**
2. **Development of quantum technologies such as sensing and metrology with accuracy beyond existing technologies**
3. **Creation of innovative quantum electronics using high performance materials, the continuous development of quantum materials**

# 1. Research into quantum communication and quantum computing to enable ultra-high-speed and massively increase parallel information processing

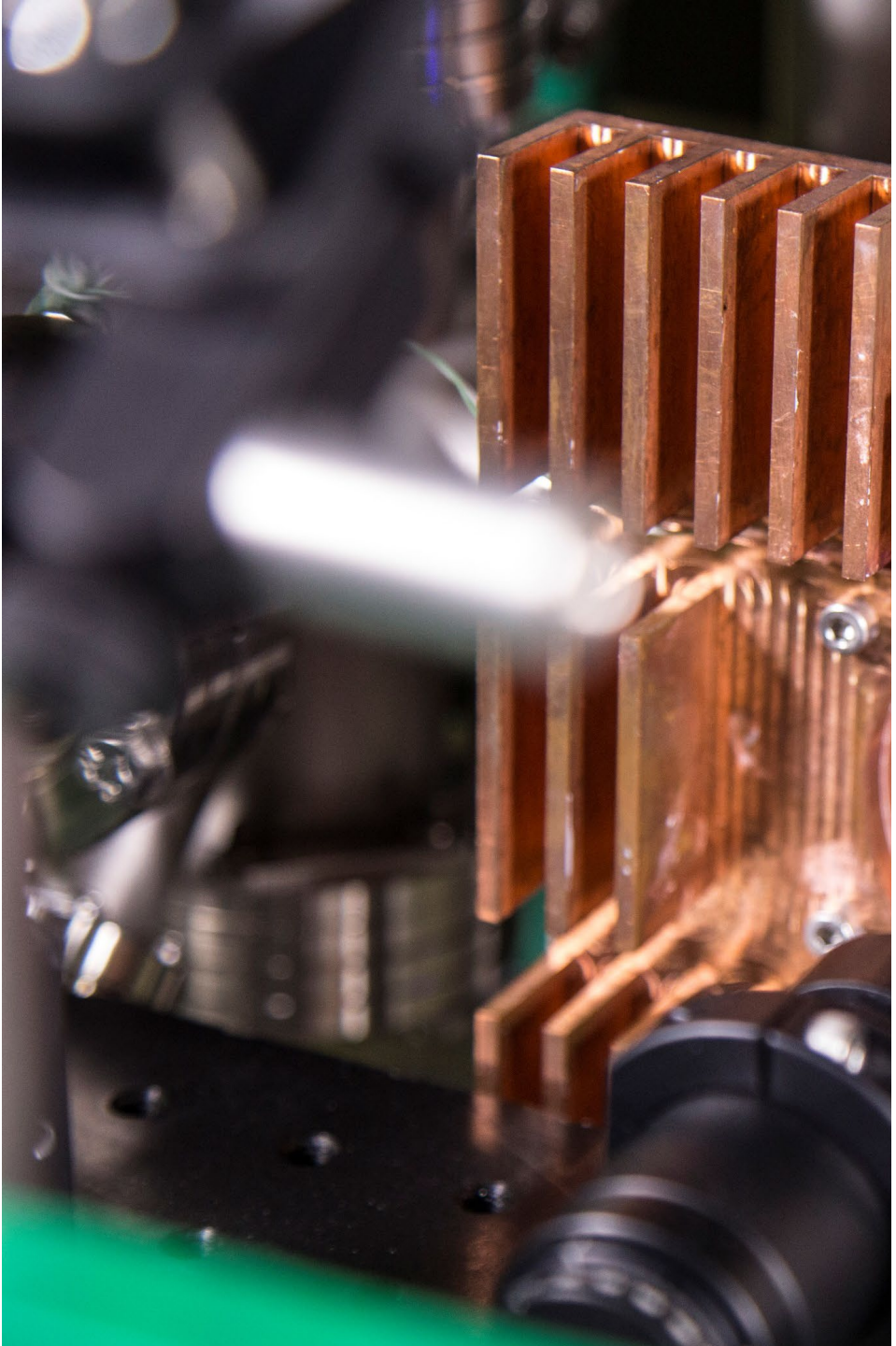
- It is anticipated that quantum computers will be utilised across all industrial sectors, facilitating a range of innovative processes and calculations that were previously unfeasible with conventional computers.
- Potential benefits for society include accelerated development of medicines and vaccines, as well as revolutionary advances in transportation.
- In quantum communication, quantum relay technology can be used to transmit quantum information directly over a network, and quantum cryptography over long distances can be used to realise a more secure communication network than at present.
- In addition, the interconnection of small- and medium-scale quantum computers is anticipated to enable the creation of a distributed quantum computer with high computing power.

## 2. Development of quantum technologies such as sensing and metrology with accuracy beyond existing technologies

- Quantum sensing technology is capable of measuring magnetic fields, temperature, and other parameters with extremely high sensitivity, and has features such as a wide range of measurable signals from minimum to maximum values.

- These features are expected to be utilised in applications that contribute to solving societal problems, such as:

  - the development of applications in biological measurements,
  - prototype devices for medical and diagnostic purposes,
  - monitoring of battery capacity in electric vehicles,
  - marine observation systems, and investigation of natural phenomena (undersea earthquakes, volcanic activity, etc.).



# 3. Creation of innovative quantum electronics using high performance materials

## The continuous development of quantum materials

- The continuous development of quantum materials with functions that will serve as the foundation for next-generation quantum technologies, such as those resilient (robustness) to environmental disturbances, is highly anticipated.

- To achieve this, it is essential to develop new concepts, materials, and technologies that can drive innovation in existing systems.

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# Expectations

# Expectations

- Japan Science and Technology Agency (JST) expect that a substantive proportion of funding for Japanese element of research projects (approximately 70% of funding) to be allocated to activities that further ASPIRE's objectives of:

  - building and expanding international research networks that foster cutting-edge research and development
  - laying the foundation for long-lasting relationships and continued involvement in the international research community by promoting international talent mobility and providing research opportunities to early career researchers.

- EPSRC expect that the UK element of research projects reciprocate Japanese effort towards researcher mobility through research staff exchanges, but do not expect the same percentage of budget to be allocated for researcher mobility.

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# Eligibility Criteria

# Eligible Institutions and Applicant Eligiblity

EPSRC eligibility:

- EPSRC standard eligibility rules apply to this funding opportunity, applicants in the UK must meet the EPSRC eligibility requirements. For full details, visit **Check if your institution is eligible for funding.**
- For full details, visit **Eligibility as an individual**.

Japan Science and Technology Agency (JST) eligibility:

- Japan based researchers should be conducting research at a research institution (university, independent administrative institution, public experimental research institution, public-interest corporation, or company) within Japan.
- Applicants in Japan must meet the Japan Science and Technology Agency (JST) eligibility requirements.

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# Available Funding

# Available Funding

- Engineering and Physical Sciences Research Council (EPSRC) has a total of £4.5 million for this activity. Funding will be available for approximately three research projects.
- Applications should adhere to the following country-specific requirement:
  - UK budget requests should be up to £1.5 million (80% of the FEC)
  - Japanese budget requests should be up to ¥370 million/project (incl. 30% overhead expenses)
- We aim to fund approximately three collaborations through this activity for projects of five years' duration.
- Applications may consist of a single research project, or a suite of related research activities in a defined research area.
- We would expect to see funding requests to support collaborative research between the UK and Japan which include travel, subsistence and consumables for the project leads, project co-leads and research staff to visit or have extended work placements at a partner's laboratory overseas.

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# Available Funding

## What we will fund (UK applicants only)

You can request funding for costs such as:

- a contribution to the salary of the project lead and co-leads
- support for other posts such as research, project management and technical
- research consumables
- travel and subsistence costs
- data preservation, data sharing and dissemination costs
- estates and indirect costs

## What we will not fund (UK applicants only)

- Equipment with value equal to or greater than £10,000 per item (including VAT) is not available through this funding opportunity. Individual items of equipment with value below £10,000 (including VAT) may be included in the 'Directly incurred – other costs' heading.

- PhD studentships may not be included in the costs sought from EPSRC.

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# Application Process

# How to Apply

## Submitting your application

- We are running this funding opportunity on the new Funding Service, before starting an application, you will need to log in or create an account  on The Funding Service (TFS). You can save completed details in TFS at any time and return to continue your application later.
- Read our advice on writing proposals for EPSRC funding

**Application Development:**

- The Japan and the UK team will need to develop a joint proposal and submit their applications by parallel submission by following sequence of steps.

- The project leads (PL) in UK is responsible for submitting the joint proposal via the UKRI Funding Service (TFS). The UK project leads (PL) should download the completed joint proposal from the Funding Service after completing the submission and share a copy in PDF format securely with the Japan-based principal investigator (PI) of the counterpart team in Japan.

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# How to Apply

## Submitting your application

**Application Development continued:**

- The Japan-based PI should then merge (i) the PDF file of the joint proposal shared by the Project Leads (PL) in UK and (ii) a separately completed application with additional information requested by Japan Science and Technology Agency (JST) in the designated application form document Japan-UK Quantum Technologies Application Form into one PDF file and upload the merged file to e-Rad.

- For Japan-based applicants, please see the **JST Application Guidelines** for details.

## Deadlines:

- **JST** must receive Japan based applicant prior notice to submit by **24 April 2025.**
- **EPSRC** must receive your **application** by **4:00pm (UK time) on 8 May 2025.**
- **JST** must receive the Japan based applicants e-RAD submission by **5:00am (UK time) on 9 May 2025.**

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# Application Questions

**The following questions will be included via the UKRI Funding Service**:

- Vision and Approach
- Research partnership
- Plan for Early Career Researcher (ECR) and International Researcher Mobility
- Applicant and team capability to deliver
- Resources and cost justification
- Ethics and responsible research and innovation (RRI)

**The following questions will be included in the UKRI Funding Service for UK applicants only**:

- Additional documentation: JST-EPSRC joint application form
- Project partners
- Project partners letters (or emails) of support
- Facilities
- Ethics and responsible research and innovation (Additional sub-questions)
- Data management and sharing
- Trusted Research and Innovation

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# Assessment Process

# Assessment Process

We will assess your application using the following process:

- Project applications received by Japan Science and Technology Agency (JST) and Engineering and Physical Sciences Research Council (EPSRC) will be reviewed by the two agencies to confirm that your application:
  - is within the scope of this funding opportunity
  - successfully meets the eligibility requirements for both agencies

- Subject to successful eligibility and scope checks, applications will be subject to an assessment process led by EPSRC in partnership with JST.

- EPSRC will coordinate and manage the review of applications in consultation with JST.

- Full information on the assessment process can be found on EPSRCs web page.

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# Assessment Process

**Peer review**

- We will invite peers to review your application independently, against the specified criteria for this funding opportunity. Those invited to peer review applications will only be expected to provide a review based on the information entered into and displayed via the Funding Service.
- You will not be able to nominate reviewers for applications on the new UK Research and Innovation (UKRI) Funding Service. Research councils will continue to select expert reviewers.

**Panel**

- Following peer review, we will invite peers to use the evidence provided by reviewers and your applicant response to assess the quality of your application and rank it alongside other applications after which the panel will make a funding recommendation.
- Japanese applicants recommended for funding will be required to submit additional information to meet the requirements of JST following the panel. In addition, JST will hold an interview with the principal investigator of the projects recommended for funding as per the ranking list.

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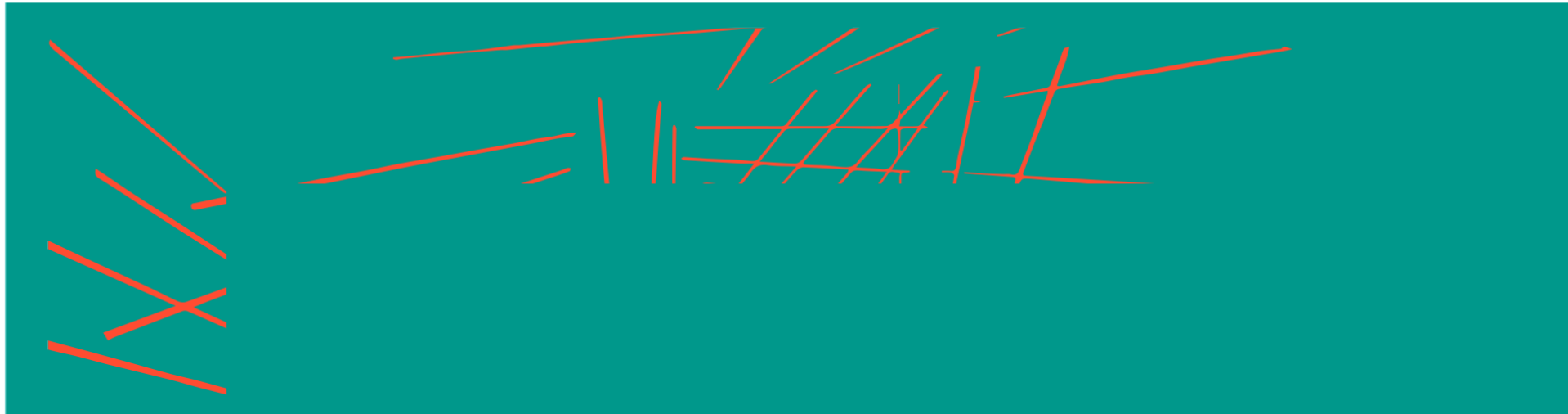
# Assessment Criteria



# Assessment Criteria

The assessment areas we will use during the peer review stage are:

- **vision and approach**
- **research partnership**
- **plan for Early Career Researcher (ECR) and international researcher mobility**
- **applicant and team capability to deliver**
- **resources and cost justification**
- **ethics and responsible research and innovation**

# Assessment Criteria - Vision and Approach

For this section create a PDF document that includes your responses to all criteria. The document should not be more than 11 sides of A4. You may include images, graphs, tables. You can have an additional page for a diagrammatic workplan.

**Vision**

For the Vision, explain how your proposed work:

- is of excellent quality and importance within or beyond the field(s) or area(s)
- has the potential to advance current understanding, or generate new knowledge, thinking or discovery within or beyond the field or area
- is timely given current trends, context, and needs
- impacts world-leading research, society, the economy, or the environment

Within the Vision section we also expect you to explain how your proposed work:

- is relevant to the scope of the call including at least one of the priority areas of joint interest for JST and EPSRC

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# Assessment Criteria - Vision and Approach

## Approach

Applications must demonstrate how are you going to deliver your proposed work? In doing so, please clarify the division of the research between the teams in Japan and the UK.

For the Approach, explain how you have designed your work so that it:

- is effective and appropriate to achieve your objectives
- is feasible, and comprehensively identifies any risks to delivery and how they will be managed
- if applicable, uses a clear and transparent methodology
- if applicable, summarises the previous work and describes how this will be built upon and progressed
- will maximise translation of outputs into outcomes and impacts
- describes how your, and if applicable your team's, research environment (in terms of the place, and relevance to the project) will contribute to the success of the work

Within the Approach section we also expect you to:

- provide a detailed and comprehensive project plan including milestones and timelines in the form of a Gantt chart or similar

# Assessment Criteria - Research partnership

**Research partnership**

When providing a response applicants are expected to:

1) describe in detail how your proposed work will add value to the advancement of the research field and the relevant research community
2) describe your specific plans for building and expanding your international network through this proposal, with the aim of building, involving and developing a world-class international research community
3) describe the specific networks that you expect to have established and expanded by the end of this assignment

# Assessment Criteria - Research partnership
## continued

How does your proposed work involve collaboration between UK and Japan?

Demonstrate how the research partnership:

- involves high-level international joint research aimed at enhancing scientific and technological capabilities for both countries
- delivers the research strengths, added value and synergies that can be achieved through UK-Japan collaboration
- demonstrates a clear and feasible division of roles between the Japanese and UK research, throughout the research period
- has an appropriate approach for building and expanding the international collaboration and a world-leading network
- involves research exchanges and collaborations that are equitable and mutually beneficial for both countries
- advances the research field in both Japan and the UK

# Assessment Criteria - Plan for Early Career Researcher (ECR) and International Researcher Mobility

Applicants must demonstrate a clear plan to support career development of ECR's, mechanisms to develop the next generation of leading researchers and provide researchers (to include but not limited to ECR's) with opportunities to achieve international mobility.

Each of the Japan and UK teams should include one or several researchers who will travel from Japan to UK and from UK to Japan respectively to conduct research (outgoing researcher). Please describe the plans of any outgoing researchers within the next two to three years, providing the following information

When providing a response please ensure to include the following information for outgoing researcher(s):

- name of researchers
- current host organisations
- Roles
- intended host organisations in partner country

# Assessment Criteria - Plan for Early Career Researcher (ECR) and International Researcher Mobility continued

**Outgoing researcher(s)**

**For Japan-based applicants only**, the researcher(s) going abroad should fall under either (i) or (ii) to be eligible. The outgoing researcher(s) will be expected to conduct research activities in the UK for approximately one year. There is no limit to the number of researchers who may go abroad, outgoing researchers can include the PI, Co-PI or research participants of the project.

(i)Students enrolled in an advanced degree course (i.e., master's or doctoral course) *

(ii)Researchers who have obtained their final degree less than 15 years ago and are conducting research activities at universities, public research institutions, etc.

**For UK applicants only**, outgoing researcher(s) from the UK to Japan can include those assigned included in the core team for example; project lead (PL), project co-lead (UK) (PcL), specialist, professional enabling staff, research and innovation associate, technician, visiting researcher, and researcher co-lead (RcL)

# Assessment Criteria - Plan for Early Career Researcher (ECR) and International Researcher Mobility continued

Describe your plans for Early Career Researcher (ECR) and International Researcher Mobility

Describe how your plans:

- include appropriate goals set to achieve career development of researchers including early career researchers, through international mobility activities
- involve a sufficient number of early career researchers
- are effective for developing early career researchers to become the next generation of leading researchers (succession planning) and promotes the development of early career researchers
- demonstrate the ability to support early career researchers and international talent mobility
- for the proposed project aids with researcher mobility (to include but not limited to ECR's)

# Assessment Criteria - Applicant and team capability to deliver

Why are you the right individual or team to successfully deliver the proposed work?

Evidence of how you, and if relevant your team, have:

- the relevant experience (appropriate to career stage) to deliver the proposed work
- the right balance of skills and expertise to cover the proposed work
- the appropriate leadership and management skills to deliver the work and your approach to develop others
- contributed to developing a positive research environment and wider community
- sufficient research achievements to demonstrate current or potential high level of international standing within global research community within relevant research field/s
- an established record of relevant technology research which clearly and purposefully contributes to the scope stated in the funding opportunity

# Assessment Criteria - Applicant and team capability to deliver

- **UK applicants** should use Résumé for Research and Innovation (R4RI) format to complete the applicant and team capability to deliver section of application.
- The word limit for this section is 2000 words: 1500 words to be used for R4RI modules (including references) and, if necessary, a further 500 words for Additions.
- Use the Résumé for Research and Innovation (R4RI) format to showcase the range of relevant skills you and, if relevant, your team (project and project co-leads, researchers, technicians, specialists, partners and so on) have and how this will help deliver the proposed work. You can include individuals' specific achievements but only choose past contributions that best evidence their ability to deliver this work.
- Complete this section using the R4RI module headings listed. Use each heading once and include a response for the whole team, see the UKRI guidance on R4RI.
- **Japan-based applicants** should describe the achievements of Japan-based Principal Investigators by using the Japan-UK Quantum Technologies Application Form: This should be submitted to the Cross-Ministerial Research and Development Management System (e-Rad) For further details please see JST-EPSRC Joint Application Form

# Assessment Criteria - Resources and cost justification

What will you need to deliver your proposed work and how much will it cost?

Justify the application's more costly resources, in particular:

- project staff
- significant travel for field work or collaboration (but not regular travel between collaborating organisations or to conferences) , for applicants in Japan please see ASPIRE website for further details.
- any consumables beyond typical requirements, or that are required in exceptional quantities
- all facilities and infrastructure costs
- all resources that have been costed as 'Exceptions'

# Assessment Criteria - Resources and cost justification continued

Assessors are not looking for detailed costs or a line-by-line breakdown of all project resources. Overall, they want you to demonstrate how the resources you anticipate needing for your proposed work:

- are comprehensive, appropriate, and justified
- represent the optimal use of resources to achieve the intended outcomes
- maximise potential outcomes and impacts

Resources and cost justification for Japan-based applicants, please check the **JST Application Guidelines** for details.

Assessors will only assess the application resources and cost justification as displayed and entered via the Funding Service.

# Assessment Criteria - Ethics and responsible research and innovation (RRI)

What are the ethical or RRI implications and issues relating to the proposed work?  If you do not think that the proposed work raises any ethical or RRI issues, explain why.

Demonstrate that you have identified and evaluated:

- the relevant ethical or responsible research and innovation considerations
- how you will manage these considerations

You may demonstrate elements of your responses in visual form if relevant. Further details are provided in the Funding Service.

For JST‘s Ethics and responsible research and Innovation, please check the **JST Application Guidelines** for details.

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# Key Points & Contact Details

# Summary Points

**Funding Amount:**

EPSRC - funding can be up to **£1.5million (80% full economic cost) per application.** This value includes indexation costs.

JST - Japanese budget requests should be up to ¥370 million/project (incl. 30% overhead expenses)

**Duration:** The duration of the funding will be for **up to 5 years**.

**Start Date:** Projects recommended for funding are anticipated to start from January of 2026 onwards.

**Eligibility:**

EPSRC standard eligibility rules apply to this funding opportunity, applicants in the UK must meet the EPSRC eligibility requirements. For full details, visit **Check if your institution is eligible for funding.**

Japan based researchers should be conducting research at a research institution (university, independent administrative institution, public experimental research institution, public-interest corporation, or company) within Japan. Applicants in Japan must meet the Japan Science and Technology Agency (JST) eligibility requirements.

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# Summary Points

Full details of the call and what is expected and required to apply in each section can be found on the funding opportunity page Japan-UK Joint opportunity for Quantum Technologies for Innovation – UKRI

## Deadlines:

- **JST** must receive Japan based applicant prior notice to submit by **24 April 2025.**
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# Useful Information

**Get help with developing your proposal:**

- For help and advice on costings and writing your proposal **please contact your research office** in the first instance, **allowing sufficient time for your organisation's submission process.**

**Ask about this funding opportunity:**

- We welcome you to get in contact if you have any specific questions and **we will arrange a 1:1 meeting with you to discuss further**. Please contact the Quantum Technologies Theme mailbox : QuantumTechnologies@epsrc.ukri.org.
- For Japan based applicants please contact Japan Science and Technology Agency (JST) contact email: **aspire-uk@jst.go.jp**
- A **Frequently Asked Questions document and a copy of this presentation** will be available on the funding opportunity web page after the webinar.

**Get help with applying through TFS:**

**Email**: support@funding-service.ukri.org
**Telephone**: 01793 547490 **Opening times**: Monday to Thursday 8:30am to 5:00pm, Friday 8:30am to 4:30pm

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# Questions?

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# Thank you

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