

UKRI-JST Joint Call on Artificial Intelligence and Society Call specification

Version: May 2019

Summary

The Economic and Social Research Council (ESRC) and Arts and Humanities Research Council (AHRC) of the UK and the Research Institute of Science and Technology for Society (RISTEX) of Japan Science and Technology Agency (JST), are pleased to invite high quality proposals between UK and Japanese researchers to explore the impact Artificial Intelligence (AI) technologies may have on society and the economy.

The total UK budget for this call is £2 million. UK applicants may request between £360,000-£500,000 (100% fEC) per project. If successful, UKRI will meet 80% of the full economic costs and the host institution is expected to support the remaining 20%. The total Japanese budget for this call is ¥180m. Japanese applicants may request up to ¥30m per project. Together we expect to fund between five- seven joint proposals for a period of three years. The deadline for applications through Je-S is 17 July 2019. Successful awards will be announced in November 2019 and will be expected to begin in January 2020.

Background to funding agencies and collaboration

Recent changes to the structure of research funding in the UK has led to the formation of UK Research and Innovation (UKRI), of which the ESRC and AHRC are constituent bodies. An integral part of UKRI's strategy moving forward is to encourage and facilitate international collaboration. Japan has been identified as a partner of choice and a focus of investment for UKRI.

Analysis of co-publication data from Scopus has shown that where UK and Japanese researchers work together in and across the social sciences and arts and humanities (SSH) the research they produce is of the highest quality. Recent investment in Japanese universities and funding programmes has created a vibrant, high-quality research community in Japan for exploring the broader societal implications of AI technologies. In addition, a recent UK-Japan networking call (launched in 2018), focused on improving the connectivity between UK and Japanese SSH research communities, proved exceptionally popular and offered further evidence of the appetite for collaboration within these communities.

In Japan, the fifth Science and Technology Basic Plan identified the assessment of emergent technologies as a priority area. Within this, the Human Information Technology Ecosystem (HITE) programme was established as a research and development focus area to be delivered by JST-RISTEX. This focus area aims to contribute towards building a society that embraces a strong relationship between information technology and humanity, by promoting

projects that assess information technology and propose a new social system that enables human and information technologies to co-evolve. This focus area has been operating for three years and the UK has been identified as a new partner of choice and a focus of investment for JST-RISTEX in 2019.

Call scope

The increasing prevalence of artificial intelligence (AI), machine learning and automation in many aspects of everyday life is generating a wide range of economic, cultural and social challenges and opportunities. In the foreseeable future, these technologies will affect people's lives in ways and to extents that are potentially highly disruptive and remain deeply uncertain. The implications of AI will be felt at the individual level, including human interaction with AI and an individual's relationship with others around them, but also at a broader societal and economic level. Further investigation is therefore required to better understand the likely applications and consequences of AI technologies and contribute to our understanding of this inherently interdisciplinary area.

The potential impact of AI and machine learning is global and both the UK and Japan will encounter multiple social, cultural and economic opportunities and challenges arising from the proliferation of these technologies. Whilst there are a number of similarities between the two countries – especially in terms of their level of economic development and a long tradition of democracy – there are also a number of key differences, including their respective national innovation systems; culture; labour market division; and the structuring of businesses and careers. Japanese discourse in the field of AI commonly focuses on the potential of these technologies to address the challenges of an ageing society, whilst in the UK it is more common to see discourse relating to AI focused on labour market contexts, including the threat posed to jobs and livelihoods. These contrasting settings provide a compelling rationale for undertaking comparative research between the two countries. In response to this context, ESRC, AHRC and JST-RISTEX are commissioning this funding call to facilitate UK-Japanese research collaboration in an area that is a mutual priority for both countries.

Rationale and call objectives

This call aims to foster collaboration between researchers across the social sciences and arts and humanities in the UK and Japan, as well as AI researchers in both countries. It is intended to advance social science, arts and humanities research and its impact for the benefit of both countries. The call also aims to promote interdisciplinary and transdisciplinary working and to position the social sciences and arts and humanities as an integral part of the process in developing and exploring AI systems, ensuring that those systems provide the greatest benefit to people and societies. **Ultimately, the call aims to contribute towards the development of a platform for effective and sustained dialogue and engagement between a range of researchers and other relevant stakeholders, eventually leading to practical implementation and policy recommendations.**

UKRI-ESRC and JST-RISTEX held a joint workshop in September 2018 to bring together social science, arts and humanities researchers from the UK and Japan to explore the issues surrounding AI technologies and how they impact society. The workshop identified gaps and opportunities for new research in this field described under the thematic areas detailed below.

Thematic areas

Proposals should reflect one or more of the inter-related areas described below.

Impacts on humans and society – Future happiness, wellbeing and the individual

- Social and cultural enhancement through AI: *investigating the impact AI will have on inter-human relationships, happiness and wellbeing, and AI and identity*
- Social benefits: *conceptualising and measuring the potential social benefits of AI, and exploring the implication of AI in the relationship between social benefit and individual rights, including questions such as who owns data – the individual or the collective?*
- Conceptualising futures and verifying past predictions: *investigating what the future system might look like and how it will be operationalised for the future, examining past future predictions, and the implications of AI for different elements of society such as individual, government and civil society*
- Rethinking societal structures: *questioning the foundational constructs of modern society as legal and market systems that assume autonomous and responsible individuals.*

Economic implications, skills, work and education

- Social inclusion/exclusion and wealth distribution: *exploring patterns and inequalities of distribution and how the whole of society (including vulnerable and excluded groups) can or cannot benefit, both socially and economically, from AI, and the positive / negative impacts of distributing an AI-driven economy*
- The future of work: *the impact of AI on working patterns, wages and the balance between working life and leisure as well as its impact on occupational mobility, productivity and how to promote continuous incremental changes*
- Human-machine interaction: *exploring the dynamics of co-working between humans and machines (ie boundary of job and task; meaning of the ‘end of work’)*
- Impact on skills: *exploring the impact on the education system, understanding what skills are required in a society where increased AI use is the norm, and how those skills could be obtained or developed (eg career-based approach/lifelong learning).*

Transparency, responsibility, governance and ethics

- Democratising AI: *how to improve the transparency and autonomy of AI, and how to bring democracy into the AI industry*
- Trust, security, and public acceptance: *investigating how trust could be earned in AI, how to ensure data security, traceability, visibility, familiarity and accountability of AI; the mechanisms for facilitating trust in AI are not limited to institutional and policy tools but may also involve appealing to our emotions, for example through art and culture*
- Global impact of AI: *Estimating the global impact of AI, what global challenges arise from AI and exploring solutions, how humans are affecting / impacting on the development of AI;*
- Responsibility: *where processes are increasingly automated, and where tasks are taken on by robots, where does responsibility and accountability for decisions lie?*
- Ethical and legal implications of AI and governance: *exploring issues such as AI and human rights; liability; regulatory regimes; and issues around how data and AI technology should be governed globally*
- Equality and diversity in AI: *for example, issues relating to the impact of gender and racial bias in AI and whether algorithmic biases have detrimental impacts on governance structures, educational and medical systems, and wider society.*

Approach

Proposals are strongly encouraged to use the following approaches to explore the themes described above:

- Adopt a genuinely interdisciplinary approach exploring how to co-design the research with different disciplines within and beyond the social sciences, arts and humanities. Whilst proposals need to be primarily rooted in the social sciences, arts and humanities (with the majority of the proposal falling within ESRC and AHRC's remits), collaboration with other relevant disciplines is strongly encouraged
- Collaboration with non-scientific stakeholders such as policymakers, public, third sector and businesses is also encouraged (please refer to [ESRC's policy](#) on the inclusion of business, third sector or government body co-investigators)
- Undertake comparative research looking at key similarities but also differences in the context of Japan and the UK (including varying appetite and curiosity of technology, culture, national innovation systems, labour market division and careers etc)
- Use innovative research design and methods.

Funding

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Please note that proposals will be funded under this call subject to the UK funding being secured from the Fund for International Collaboration.

Eligibility

The call invites collaborative projects between Japan and UK researchers. A proposal should have a lead partner from each country. The lead partner from the UK should be listed as PI on the UK proposal and must be based at an eligible research organisation for UKRI funding.

Interdisciplinarity

This call welcomes interdisciplinary research proposals across the breadth of social science, art and humanities. Collaborations with disciplines outside of the social sciences, arts and humanities are also encouraged. However, a proposal should have a majority focus within ESRC or AHRC's remits to be eligible under this call. Please refer to the list of research areas that fall within [ESRC remit](#) or [AHRC remit](#) for further information.

Research ethics

UKRI require that the research we support is designed and conducted in such a way that it meets certain ethical principles, and is subject to proper professional and institutional oversight in terms of research governance.

As an important source of public funds for research and as a body charged with encouraging, supporting, undertaking and advising on such research, UKRI recognises that it has a special obligation towards the general public and academic community to ensure that the research which it funds is carried out to a high ethical standard.

We have agreed a Framework for Research Ethics that all submitted proposals have to comply with. Further details available about the Framework for Research Ethics and guidance on compliance (together with links to other web-based resources on research ethics) may be found on [ESRC website](#).

International co-investigators

The focus of this call is to foster collaboration between UK and Japan researchers to advance social science, arts and humanities research in the area of artificial intelligence and its impact for society. Therefore, the inclusion of international co-investigators beyond these countries is not permitted under this call.

Business, third sector or government body co-investigators

Business, third sector or government body Co-Is based in the UK or Japan can also be included in proposals. For further information, please see the [guidance on ESRC website](#).

Associated studentships

Please note that associated studentships are not allowed under this call.

How to apply

Please note that applicants must submit two separate proposals per application. The UK proposal should be submitted via UKRI's Joint Electronic Submissions (Je-S) system and should detail all UK costs associated with the joint project. The Japanese proposal should be submitted via JST-RISTEX's submission system and should detail all Japanese costs associated with the joint project. Although this call specification is primarily focused on providing guidance for the UK submission, many components of the proposal should be the same as that submitted to JST-RISTEX. Please refer to the Je-S call guidance document for more detailed information.

Applicants are strongly advised to coordinate the submission process with Japanese counterparts and to contact JST-RISTEX with any queries relating to the Japanese submission.

To submit proposals to UKRI, all proposals must be made through the [Joint Electronic Submission \(Je-S\) system](#), Je-S is the electronic submission system which is used by all research councils to provide a common electronic system that supports research administration. More detailed information can be found on the [Je-S website](#).

Each proposal must have a principal investigator (PI) from both the UK and Japan. The UK PI must be based at a research organisation eligible for UKRI funding. If successful, the PI's institution is responsible for submitting the proposal and administering the UK funding. In order to use the Je-S system, principal investigators and co-investigators from UK and their organisations need to be registered on the system. Registration of both the principal investigator's organisation and their own details must be completed before the proposal can be formally submitted to us. Please consult the Je-S guidance document for further information on Je-S registration.

Please note that Japanese partners do not need to be Je-S registered and should not be included as Co-Is in the UKRI Je-S form. Instead they should be listed in

the International Application Form, which is a separate mandatory attachment required for this call. Please consult the Je-S guidance document for further information.

Care and attention must be given to completing a proposal. We may reject proposals that are not completed correctly, or ask applicants to amend the proposal as a condition of accepting it for processing.

All applicants must follow call-specific Je-S guidance when preparing to submit their application. The full Je-S guidance for this call is available at [the call page](#).

Please also note that only UK costs should be included in the proposal submitted to UKRI. The UK costs must be approved by the relevant institutional authority within the research organisation prior to submission.

The final submission process is the responsibility of the host institution, and UKRI cannot accept responsibility for any delays that occur. It is recommended that applicants submit in good time prior to the call deadline. We strongly advise applicants to confirm with their relevant administrator that the proposal has been submitted successfully to the UKRI.

All personal data provided to UK Research and Innovation in connection with this bilateral call will be processed in accordance with current UK data protection legislation and the EU General Data Protection Regulations 2016/679 (GDPR) where appropriate. Data will be shared with RISTEX-JST, our partner funders in Japan. Further information on this call can be found on [our website](#). Further details can be found in the UK Research and Innovation [Privacy Notice](#).

Assessment criteria

Proposals to this call will be assessed in accordance with the following criteria:

Relevance to the call

- Does the proposal address one or more of the research topics and the wider objectives of the call?

Originality / potential contribution to knowledge

- Is the proposed research likely to make an original and significant contribution to theory, methods or knowledge?
- Is there similar or related work, not mentioned in the proposal, of which the applicant(s) should be aware? If so, please specify.

Research design, work plan and research team

- Are the objectives of the proposal clearly stated?
- Are the research methods and framework for analysis suitable to the aims and objectives? Are they clearly defined, rigorous and feasible?
- Does the proposal demonstrate an interdisciplinary approach? Have the different disciplinary approaches been integrated effectively and how does this add value?
- Is the timescale and scheduling of the work appropriate and realistic?
- Are the qualifications and competencies of the participating team members appropriate to the international collaboration within the proposal?

Value for money

- Is the proposal overall good value-for-money for the total costs involved?
- Are the costs requested clearly justified?
- Are the costs included in the proposal 'appropriate' (ie are they focused on and necessary for building sustainable partnerships)?

Knowledge exchange, impact and outputs

- Are the planned outputs of the proposal appropriate? Have the applicants made adequate plans to disseminate the results of the collaboration?
- Where relevant, have appropriate arrangements been made for engaging potential users (eg business and industry) at relevant stages of the project?
- Is the collaboration likely to have significant social and policy impact beyond the academic community?

Ethical considerations

- Are any potential ethical issues addressed appropriately and comprehensively in the proposal?
- Have applicants made appropriate plans for data storage and providing access to data for other researchers?

Strength of international collaboration

- What is your opinion on the added value of the UK-Japan cooperation to the research proposal, including the complementary nature of the UK and Japanese teams?
- Does the proposal involve any UK-Japan comparative elements and if so how does this add value to the work proposed?
- Is the distribution of work between the UK and Japanese partners appropriate? Is it truly collaborative?
- How does the proposal build on existing projects funded by JST-RISTEX, ESRC and AHRC?

Assessment process

Proposals submitted to this call will be assessed by independent peer reviewers selected by both UKRI and JST-RISTEX. The peer review comments for shortlisted proposals (those above the quality threshold) will be sent to applicants, and applicants will have an opportunity to respond.

Proposals submitted to JST-RISTEX will also go through a separate peer review process. JST-RISTEX will have an interview stage for shortlisted Japanese investigators as part of their standard procedure. Please liaise with your Japanese collaborators and JST-RISTEX for further information.

Proposals will be considered by a joint panel of UK and Japan experts. The panel will make funding recommendations to the funders.

Commissioning timetable

- Call for proposal opens 7 May 2019

- Closing date for proposals
Submission to UKRI: **16:00 UK time on 17 July 2019**
Submission to JST-RISTEX: **12:00 noon Japan time on 17 July 2019**
- Commissioning panel meeting
October 2019
- Decision announced
November 2019
- Grants start
1-31 January 2020

Further enquiries

Enquiries relating to the call should be addressed to Chiaki Beis:

- Joint AI and Society Team
Email: jointaisocietycall@esrc.ukri.org

Enquiries relating to technical aspects of the Je-S form should be addressed to:

- Je-S Helpdesk
Email: jeshelp@je-s.ukri.org
Telephone: 01793 444164
Monday to Thursday 8:30 to 17:00 and Fridays 8:30 to 16:30 (excluding bank holidays and other holidays)

Enquiries relating to submission to JST-RISTEX should be addressed:

- JST-RISTEX contact
Email: r-ecosystem@jst.go.jp