REQUEST FOR QUOTE (RFQ) 615 – THE BRIEF

PROVISION OF SERVICES FOR: PRIVACY ENHANCING TECHNOLOGIES: MARKET READINESS, ENABLING AND LIMITING FACTORS

1.   Introduction to the Royal Society

The Royal Society is the national academy for science in the UK. It is a self-governing Fellowship of many of the world's most distinguished scientists who are elected based on their scientific work. The Society is over 350 years old, and its Fellowship includes names such as Newton, Darwin and Hawking as well as current names such as Dame Uta Frith, Dame Julia Higgins, Sir Venki Ramakrishnan and current Royal Society President, Sir Adrian Smith. The Fellowship embraces the work of discovery scientists and applied scientists and covers the full range of scientific disciplines.

The Society's fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. The Society has played a part in some of the most fundamental, significant, and life-changing discoveries in scientific history and Royal Society scientists continue to make outstanding contributions to science in many research areas.

Our priorities are promoting excellence in science; supporting international collaboration; and demonstrating the importance of science to everyone.

2.   Background to the Project

The Royal Society's Data Programme is developing policy and promoting debate that helps the UK safely and rapidly realise the growing benefits of data and digital technologies. In 2019, the Royal Society launched the report *Protecting privacy in practice: The current use, development and limits of Privacy Enhancing Technologies in data analysis*. One of our activities following from this report is an exploration of the status and role of Privacy Enhancing Technologies (PETs): technologies or conceptual approaches that allow the derivation of useful insights from data without requiring full data access.

The Society launched a refresher project to update the 2019 report, which shall be published in late 2021. This will include an updated review of PETs applications, legal / regulatory concerns, and an illustrative set of use cases.

The Society seeks to engage a Supplier to undertake this commissioned research as a keystone of our evidence gathering for this project; and it shall inform our understanding of the current state of PETs usage and identifying key user needs with regard to PETs.

3.   Overview of the Services required

The Society seeks to engage a Supplier being a researcher or team of researchers, to undertake market research that will outline the uptake of PETs in a range of organisations. This includes the enabling and inhibiting factors that encourage or prevent the use of PETs in various contexts. Industries to be reviewed include finance, health and life sciences, defence, telecommunications, and the public sector.

The findings of the successful supplier shall elucidate what kinds of PETs or privacy enhancing approaches are in established use (including but possibly expanding on those listed below in 3.2), and the 'market readiness levels' (as opposed to 'technology readiness levels') in different sectors.

3.1   Audience

The main audience for this review is the Royal Society Policy team and expert participants in project workshops. The Royal Society and its partners at the Alan Turing Institute shall provide feedback on this research as it develops, with additional input from our PETs Working Group and collaborators. This will include the Centre for Data Ethics and Innovation, who have provided financial support for this project.

The peer review process may include written comments from the Working Group, collaborators, and Royal Society staff, with the latter acting as primary point of contact for the supplier.

3.2 Objectives and research questions

The aim of the completed Services is to inform our wider report. It shall provide context and shall also highlight the needs of our target audience so that we can address them through this work.

As part of this research, the Society seek examples of successful PETs implementation in various organisations. The Society is also interested in organisations who might want to use PETs, but have been unable to do so. In both, cases the Society seeks the successful Supplier to explore enabling and hindering factors, as well as context:

a) organisations' overarching data strategies / aims,
b) capabilities required to reach these aims,
c) their privacy requirements and
d) PETs considered (if any).

PETs in this research refers to a range of technological approaches enabling the derivation of useful results from data without giving other people access to all the data.

This includes:

a) homomorphic encryption,
b) trusted execution environments,
c) zero knowledge proofs,
d) differential privacy,
e) synthetic data,
f) secure multi-party computation and
g) federated learning.

The research undertaken by the successful Supplier shall assess 'market readiness' and demand for PETs in answering the following questions:

a) What success cases for PETs exist in UK organisations?
b) What technological safeguards have organisations considered as part of their data strategy, to use or share safely sensitive data?
c) Have these organisations considered approaches such as homomorphic encryption, differential privacy, or other PETs? If so, how well did these address their privacy and data sensitivity requirements?
d) What concerns, barriers or challenges have prevented the use of PETs in organisations that have considered them?
e) How well did PETs suppliers meet / respond to the needs of organisations that have considered them?
f) In cases where PETs are in use, what assurance was needed in order to implement PETs?, and
g) What technical / legal / ethical factors hindered or enabled their use of PETs?

4. Outputs

The successful Supplier shall be responsible for the delivery of two outputs:

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4.1 The first is a *methodology brief* (about 800 words) to be agreed prior to data collation. This will detail the research / analytical approach, sampling, and any safeguarding considerations. Draft data collection tools are to be included as appendices for review (e.g., survey questionnaires).

4.2 The second, and principal deliverable for this work is *a paper* outlining findings to answer the research questions above (about 6500 words). It should include an executive summary and focus principally on findings, with a brief discussion outlining an analysis of the findings. The discussion section should include a 'taxonomy of concerns' detailing a typology of user concerns that emerge through this research. This output will be reviewed by a steering group of experts from academia, industry, and the public sector. Revisions / edits will be expected according to a timeline to be agreed with the supplier. Any references should be inserted in the text and footnoted using Royal Society style (to be provided).

Raw data will be requested (.xls / .doc format is sufficient).

5. Deliverables

The successful Supplier shall deliver the following:

a) Methodology brief, about 800 words, with appendices in MS Word
b) Findings paper, about 6500 words, with executive summary and 'taxonomy of privacy concerns', references using Royal Society style and any images usage rights secured, and
c) Raw data upon request

5.1 Methodology

These Services shall primarily involve desk-based market / social research (e.g., survey) with organisations who have implemented PETs.

The organisations included should be representative of a wide range of sectors, of various sizes and relevant to the UK context and its governance frameworks (no international examples required).

The findings should be relevant to a cross-section of public, private, and third-sector organisations in the UK.

The sample should be large enough to identify emerging common barriers / enabling factors, as well as one-off success cases.

Suppliers are asked to propose their approach to data collection, as well as the creation of a 'taxonomy of concerns' (for inclusion in the findings paper), in their submission. Specifically, the Suppliers shall explain as part of their proposals, how they shall form and validate their conclusions in drafting the taxonomy.

5.2 How will the deliverables be used by the Royal Society?

The Royal Society shall use these findings to inform our project work and final refresher report on PETs.

The final report text and figures will be designed and published by the Royal Society, with the Royal Society branding.

The findings and final report and data shall be the property of the Royal Society and shall be reusable in print by the author / successful Supplier after the first publication by the Royal Society.

All contributors will be acknowledged in the final report.

5.3 Project management

Inception meeting and midpoint check-in meetings to be held with Royal Society staff virtually. Additional informal updates or clarification may be communicated via regular emails or brief ad hoc meetings via phone / virtual setting.

6. Timelines

The successful Supplier shall be required to complete the Services by 22 December 2021.

	Activity	Due date
1	Kick off meeting	w/c 15 November 2021
2	Methodology brief finalised	19 November 2021
3	Draft report submitted	15 December 2021
4	Final report submitted	22 December 2021

7. Budget

The Royal Society is a UK registered charity with limited funds, some of which are provided via Central Government grants, and therefore we must report on our expenditure.

Suppliers are asked to consider this when proposing their costs and we ask that you are as transparent as possible in your breakdowns.

Any costs for the delivery of the Services stated in this brief that are not identified by Suppliers as part of their pricing will be expected to absorbed by Suppliers.

The maximum amount for the Services is up to £20,000, inclusive of VAT.

Please include a detailed breakdown of costs in your proposal using the provided pricing template at Attachment 2

8. Evaluating proposals

As part of your proposal, Suppliers are requested to provide statements to the below criteria questions

Criteria No.	Criteria Question	Weighting
1	**Experience**: Please provide a statement to your experience of delivering similar Services within the last 3 years.	10%
2	**Understanding the requirements**: Demonstrate your understanding of the brief requirements and objectives	10%
3	**Methodology**: Detail how you will achieve the delivery of the Services including: a) Your methodology to be applied to deliver the services in consideration of the audience and subject matter in line with this Brief, b) providing a detailed timeline including roles and responsibilities of your proposed team, c) how you will ensure business continuity and service delivery for the term of the agreement in line with the stated timeframes, and d) any risks or challenges you can identify and how you will mitigate against them should they occur.	30%

Criteria No.	Criteria Question	Weighting
4	**Proposed Team**: Detail your proposed project team and their experience of delivering similar projects and how you will ensure business continuity for the term of the Services Agreement. Please provide the proposed team members' CVs.	20%
5	**Terms and Conditions**: Please provide a statement as to any possible amendments you may seek to the Society's standard Terms and Conditions. Please also state any position you have on publishing and acknowledgement of your Services for consideration by the Society.	0%
6	**Project Costs**: Provide your project costs by completing the template titled Services Charges (Attachment 2) with including your Team's rate card charges. Please note we will award the Services to the proposal that provides the best value for money (Quality and Price).	30%
Total		**100%**

Please note that the proposed team (criteria no. 4) will be expected to complete the commissioned work if successful. Any sub-contracting or personnel changes shall be subject to written pre-approval by the Society.

9.   How to respond to this brief

Please respond by emailing your proposal by 12noon BST on 8 November 2021 by providing the following documents to June.Brawner@royalsociety.org, cc James.Hannaford@royalsociety.org and Helena.Gellersen@royalsociety.org:

a) Cover note/email.
b) Your written proposal addressing all of the Criteria at item 8,
c) Your completed Services Charges template, and
d) Your completed Supplier Declaration Form

In the case that any of the above requirements are not completed by the closing date and time, your proposal shall not be eligible for consideration.

Suppliers who cannot meet the provided timelines are to contact the Society using the below details as soon as possible to discuss.

Attachments included in this Request for Quote:

- Attachment 1 – The Brief
- Attachment 2 – Service Charges template
- Attachment 3 – Terms and Conditions
- Attachment 4 – RFQ Supplier Declaration Form

Please note that where personal data will be involved, a Data Sharing Agreement may be put in place. This will be discussed with the successful Supplier as part of the Award process.

In your proposal, please declare any professional or personal connections, financial or otherwise, with any current Royal Society staff, Officers or members of the Privacy Enhancing Technologies working group.

All responses to clarification questions shall be shared with all Suppliers.

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Please contact June Brawner (June.Brawner@royalsociety.org), cc James Hannaford (James.Hannaford@royalsociety.org) and Helena Gellersen (Helena.Gellersen@royalsociety.org) with proposal submissions and questions.

Thank you and we look forward to receiving your proposal.