ROYCE

ADVANCED MATERIALS RESEARCH & INNOVATION

INDUSTRIAL COLLABORATION PROGRAMME

ROUND 4 - 2024

Competition Guidance

Section 1:
Overview

SUMMARY

The Henry Royce Institute for Advanced Materials is offering grant funding for research, development, and innovation sprint projects. Universities, research and technology organisations and companies can apply for funding up to total project costs of £125,000 for exploring innovative ideas with a focus on **technology translation**. These awards are not intended to support fundamental research projects.

GDPR STATEMENT

The data collected will also be used for communication and reporting. Any personal data will be managed and retained in accordance with Royce (the University of Manchester's) Collaborator/ Partner Privacy Notice, Records Retention Schedule, and UKRI Standard Terms and Conditions of Funding.

If you have any further queries regarding this, please to do not hesitate to contact: grants@royce.ac.uk

You can also find Royce's Privacy Policy here.

SCOPE OF ELIGIBLE TOPICS

Sustainable Materials Innovation (with particular emphasis on foundation industries)

- Materials innovations seeking to minimise environmental impact in the foundation industries.
- Resource efficiency and scarcity: innovations in materials use and recycling to address the scarcity of critical minerals and reduce dependence on limited resources.

Quantum Technologies and Semiconductor Materials

- Materials for quantum computing: materials enabling second-generation quantum devices.
- Quantum sensors and imaging systems: New material concepts allowing improved resolution and sensitivity in proof-of-concept quantum devices for targeted applications.
- Innovations for semiconductors: new materials to support semiconductors achieve superior properties and efficiencies.

Energy Innovation and Hydrogen Technologies

- Hydrogen production, storage and utilisation: materials innovations to support hydrogen's role in the energy transition, including production, storage, transport, and utilisation.
- Advancements in energy materials: materials for enabling a new generation of energy storage and conversion technologies, to ensure scaling up efficient and low-cost solutions.
- Sustainability in energy systems: innovative materials and processes that contribute to a green energy landscape.

Healthcare Innovation

- Advanced manufacturing for healthcare devices: New material paradigms for creating bespoke medical devices and implants ensuring biocompatibility.
- Material Innovations in Healthcare: Materials for medical applications that interface effectively with biological systems to realise a healthier population.

Royce encourages projects in all the above areas that leverage advances in simulation and modelling capabilities to:

- Predict material behaviours to accelerate the design of new materials
- Develop digital twinning to mirror physical processes, enabling real-time monitoring and optimization and towards real-time simulation fidelity.

It is the responsibility of the applicants to explain how their application aligns with the scope areas.

FUNDING AVAILABLE

It is anticipated that a minimum of £3m of funding will be awarded.

Section 2:
Eligibility

PROJECT SIZE

Total project costs must be between £50,000 and £125,000.

PROJECT DETAILS

Your project is expected to:

- Include at least one business and at least one university or RTO
- Start from the 1st of October 2024
- Complete all Royce-funded activity by 28th February 2025
- Carry out its project work in the UK
- Intend to exploit the results from or in the UK
- Incur all Royce funded costs within the project's duration
- Be a new project or activity that has not already started

Participation of either Royce partners or facilities in projects is strongly encouraged and looked upon favourably.

WHO CAN PARTICIPATE?

To collaborate or lead, you must be one of the following:

- Higher Educational Institutes and Universities (HEIs)
- Research and Technology Organisation (RTO)
- Charity or not for profit organisation
- Business of any size

UK registered companies may participate and claim funding. International companies are eligible for participation but cannot claim funding.

WHO CAN LEAD?

Project leads can be:

- An appropriate senior manager from industry, for example, R&D Manager, Chief Technology Officer or equivalent
- A researcher holding an academic position (e.g. lecturer or equivalent)
- Holders of early career fellowships whereby the university grants you the same stature as a permanent academic staff member
- University or research and technology organisation technical professional services staff (e.g. Technical facility, experimental leads and technical specialists or equivalent)

Project leads can lead one proposal and collaborate on one additional proposal.

There is no limit on the number of applications per organisation, however companies should consider that Royce is unlikely to fund multiple projects from the same company.

Senior research staff (e.g. holders of postdoctoral fellowships), who cannot typically lead a research grant application can be indicated as co-investigators within Question 3 of the grant application. Note that co-investigators will be expected to undertake grant management responsibilities in addition to their research roles.

USE OF ROYCE APPLICATION SCIENTIST TEAM

Application scientists are postdoctoral-level scientists based across various Royce partners.

They are available to conduct short-term experimental work to facilitate project delivery, which may include, for example, project scoping, management, experimental work, data analysis and reporting.

Where a project conducts work in an area where there is direct overlap with expertise of an application scientist (see below list of expertise), Royce positively encourages their incorporation into the project work, where appropriate, to de-risk and ensure timely project delivery. The application scientist team may be included in project costs between 20% and 50% of their time to complement other direct staffing costs (e.g. PDRAs, experimental officers, technical specialists, and investigators).

Application scientist support is available at the following locations:

University of Manchester

Make, test and characterisation expertise across metals, polymers, fibres, nanomaterials, 2D materials, bio materials and their application in energy, sensors, polymer/ceramic composites, catalysis, printing, corrosion and other demanding environments.

Analysis and testing of materials with existing and new capabilities including, for example, X-ray tomography, scanning electron microscopy with micro mechanical testing, plasma focused ion beam.

University of Sheffield

Metals processing, powder metallurgy, field-assisted sintering technology, titanium alloys.

University of Liverpool

Chemistry, metal-organic frameworks, high-throughput discovery, robotic/automated synthesix

University of Oxford

Formulation, development and analysis of materials for electrochemical technologies from coin pouch to reel-to-reel development for li-ion technologies and hydrogen including capability to handle air-sensitive materials.

Cranfield University

Coating deposition, thin films, thermal spray, CVD, PVD, microstructural analysis, hydrogen permeation barriers, heat treatment, corrosion, analytical techniques.

Projects requesting application scientist support should email grants@royce.ac.uk with the title "ICP Application Scientist support" at least 2 weeks before the competition deadline, including the following information:

Activity	What is the proposed project, and what is the requested contribution from the application scientist team? What tasks and facilities will they utilise as part of the proposed project?
Time allocation	What is the % FTE utilisation and time commitment required? E.g. 3 months at 50% FTE.

Section 3:
Funding model & eligible costs

GRANT TYPE

These funds flow through a UKRI institute and will therefore follow UKRI terms and conditions.

FUNDING MODEL

The grant awarded to successful projects covers a proportion of the project partners' eligible costs. The grant amount is determined by the type of recipient (HEI, RTO, or business). If a recipient is a company, the grant aid intensity is determined by the company's size (Small, Medium, or Large), and the project's research, development and innovation classification (feasibility study, industrial research, or experimental development).

Companies can claim a grant equal to a percentage of their total project costs. The percentage can be found according to the following table:

Fundamental research projects are ineligible for funding.

Definitions for company sizes and project classifications are found in appendices A and B. At its discretion, Royce will determine and change the classification of the research project if it finds them unsuitable.

Academic organisations and research and technology organisations undertaking non-economic activity can obtain funding:

- Up to 80% of full economic costs (FEC) for UK Je-S registered institutions, or
- 100% of project costs for RTO, charity and not-for-profit organisations

Access to Royce facilities will be funded at 100% for academic institutions and RTOs and should be included in their project costs.

ELIGIBLE COSTS

For Je-S registered organisations:

Project leads must contact their research support teams and start their usual costing process. Please use an UKRI/ EPSRC costing template to ensure costing according to full economic costs of 80%.

Item	Eligible cost	Notes
Directly incurred:	PDRA costs	Should be an existing staff member
	Consumables and minor equipment	The maximum **individual** consumable cost is £10k
	Equipment usage	For Royce facilities, costings should be obtained from the appropriate facilities manager Contact grants@royce.ac.uk Royce facilities are funded at 100% FEC.
	Capex	Royce partners can request <20% of total project costs to enhance Royce capabilities
	Travel and subsidence	Max £5k Reasonable subsistence is allowable for essential project meetings.
	Training and development	Max £5k
	Events and outreach	Max £2k
	Subcontractor	With prior agreement from grants@royce.ac.uk
Directly allocated:	Investigator time	
	Technicians, Technical specialists, Industry fellows	
	Application scientists	Funded at 100% FEC
Indirect costs:	Estates, technician, IS and other costs	

Project leads require explicit consent from all staff named on a project, including confirmation from relevant facilities managers that there is a sufficient allocation of time for both named staff and relevant facilities, to ensure the work can be completed on time.

For industry / RTOs / not-for-profits:

The project follows UKRI's costs guidance for non-academic organisations.

Item	Note
Labour	PAYE costs only
Overhead	Royce funds a flat 15% rate for labour for overheads only
Materials and minor equipment	The maximum **individual** consumable cost is £10k All items procured under this category must be used solely for research and not for commercial purposes
Capital expenditure (>£10k)	Ineligible
Capital usage/equipment usage	Allowed as per UKRI guidance
Subcontractor costs	With prior agreement. Please email grants@royce.ac.uk
Travel and Subsistence	Max £5k

All amounts are **inclusive of VAT**. All eligible costs must be incurred directly due to the project and for research, development and innovation purposes only. The use of grant resources for commercial purposes is not allowed. All eligible costs should be limited to those strictly necessary for the project or activity, and in respect of projects, limited to the time of the project.

If a project partner does not wish to claim grant funding or wishes to provide in-kind or cash contribution towards the total project costs, it should outline this on a company letterhead document signed by a senior company official. These additional in-kind or cash costs do not count towards the total £125,000 project costs limit and will be required to be included in the contractual collaboration agreement, which must be signed between project partners.

Worked examples of project costs are provided in Appendix C.

SUBSIDY CONTROL FRAMEWORK

The competition awards funding to businesses under the Subsidy Control Act 2022 under the Research, Development and Innovation Streamlined subsidy scheme.

Companies will be asked to declare the total amount of state aid received in their current and previous two financial years. This should include aid received by linked enterprises as defined by HMRC.

Royce is unable to fund high risk organisations and applications will be subject to financial and due diligence checks.

Key Dates

18 March 2024	Competition opens
20 March 2024	Briefing event
13 May 2024	Competition closes
19 July 2024	Applicants notified
01 October 2024	Projects can start
28 February 2025	Project funding ends

Section 4:
Completing & submitting your application

APPLICATION QUESTIONS:

Public Project Description

Provide between 200 and 400 words describing your project. Use only information you are happy to publish in the public domain.

Information in this answer may be used to develop case studies.

Scope

Describe how your proposal meets the competition scope. **If more than half of the assessors determine it is out of scope, your proposal will not be considered for funding.**
Your answer can be up to 400 words.

Question 1: The Idea

What is the problem you wish to solve, and why is your proposed approach an innovative solution?

You should consider the following in your answer:

- The specific innovation you propose to develop
- How this is different and better than alternative solutions
- Any barriers to adoption and how they could be overcome
- Why your solution is novel, important and timely

Your answer can be up to 600 words long and will be scored out of a maximum of 25 points.

Question 2: Workplan and Costs

What will you do with the grant funding? How will you manage the project and risks effectively?

You should consider the following in your answer:

- Your project's main work packages, who leads them and the tasks associated with each
- A list of outputs of the project in terms of specific deliverables, ideally per work package
- The project risks and how you will mitigate them
- Describe what the funding will be spent on, referring to costs for main work package
- Your freedom to operate, for example, patents, Intellectual Property

Your answer can be up to 600 words long and will be scored out of a maximum 25 points.

Question 3: Project Resources and Capabilities

Explain why you and your partners are capable of delivering this project.

You should consider the following in your answer:

- What resources and facilities (whether Royce or external) you can access, including the main people and teams involved and relevant track records
- What are the contributions from each project partner and why the project is an effective collaboration leading to technology translation
- Your capability to deliver in the required timeframe given your existing business activities or constraints

Your answer can be up to 600 words long and will be scored out of a maximum of 25 points.

Question 4: Impact and Added Value

What will be the impact of receiving the grant to your project?

You should consider the following in your answer:

- What is the expected impact of the project? This may be academic or economic impact for the project partners but also environmental, societal, health or other impact for the broader UK
- Why public funding is necessary and value for money, for example, is there currently a lack of investment, or market failure?
- How the project will progress and deliver outcomes beyond the life of the project and under what timescale

Your answer can be up to 600 words long and will be scored out of a maximum of 25 points.

Section 5:
Next steps

ASSESSMENT AND OUTCOMES

Your application will be confidentially shared with, and assessed by an independent panel made up of experts in the field from industry and academia.

Royce will provide all unsuccessful applicants with feedback.

If your application is successful, you will be issued a grant offer letter outlining the requirements for funding. You will be asked to provide:

- Name and contact details for financial and contract leads for the lead partner. If the project is industry-led, we will require the finance details of all parties, a signed subsidy control form and award letter
- A collaboration agreement between the project partners which could be based on a Lambert template for university and company collaborations, or a Brunswick template for university-to-university collaborations. The project partners are responsible for negotiating this after the award, preferably to be agreed before a project commences (**NB no project funds will be released until a collaboration agreement is in place**).

Contact details:

Please email any queries to grants@royce.ac.uk

To apply please visit https://www.royce.ac.uk/industrial-collaboration-programme/

Appendix A
Company sizes definitions

Definitions as per Companies Act 2006.

COMPANY SIZES

Micro entity	A micro-entity must meet at least 2 of the following conditions: • turnover must be not more than £632,000 • the balance sheet total must be not more than £316,000 • the average number of employees must be not more than 10
Small company	For accounting periods beginning on or after 1 January 2016, a small company must meet at least 2 of the following conditions: • annual turnover must be not more than £10.2 million • the balance sheet total must be not more than £5.1 million • the average number of employees must be not more than 50
Medium company	To be a medium-sized company, you must meet at least 2 of the following conditions: • the annual turnover must be no more than £36 million • the balance sheet total must be no more than £18 million • the average number of employees must be no more than 250
Large	Any companies that do not meet the criteria for micro-entities, small or medium companies are large.

Note that only organisations registered with the Companies House are eligible for funding.

You are also unable to claim funding if:

- you are an overseas organisation (company number beginning with FC)
- your organisation is setup as a branch (company number beginning with BR)
- you are a collaboration with no formal structure of ownership or control (company number begins with ML)
- you are a crown dependency based in Jersey, Guernsey or Isle of Man
- your company is based in any of the British Overseas Territories

The programme is unable to fund enterprises that are in financial difficulty.

DEFINITION OF A COMPANY

Note that within the context of the Industrial Collaboration Programme, a “business” refers to an entity (typically a limited company) that conducts economic activities, i.e., activities aligned with the intention of realising a profit. Non-economic entities (such as research organisations, which are typically limited by guarantee, charities, or not-for-profit organisations) are generally not considered to meet this criterion. However, such organisations can be regarded as a business if they conduct economic activities, in which case the business funding intensities will apply. It is important to note that the Royce strongly recommends including a for-profit business within consortia to support technology translation. Non-economic entities wishing to participate in the ICP as a business are requested to receive prior approval by emailing grants@royce.ac.uk.

Appendix B

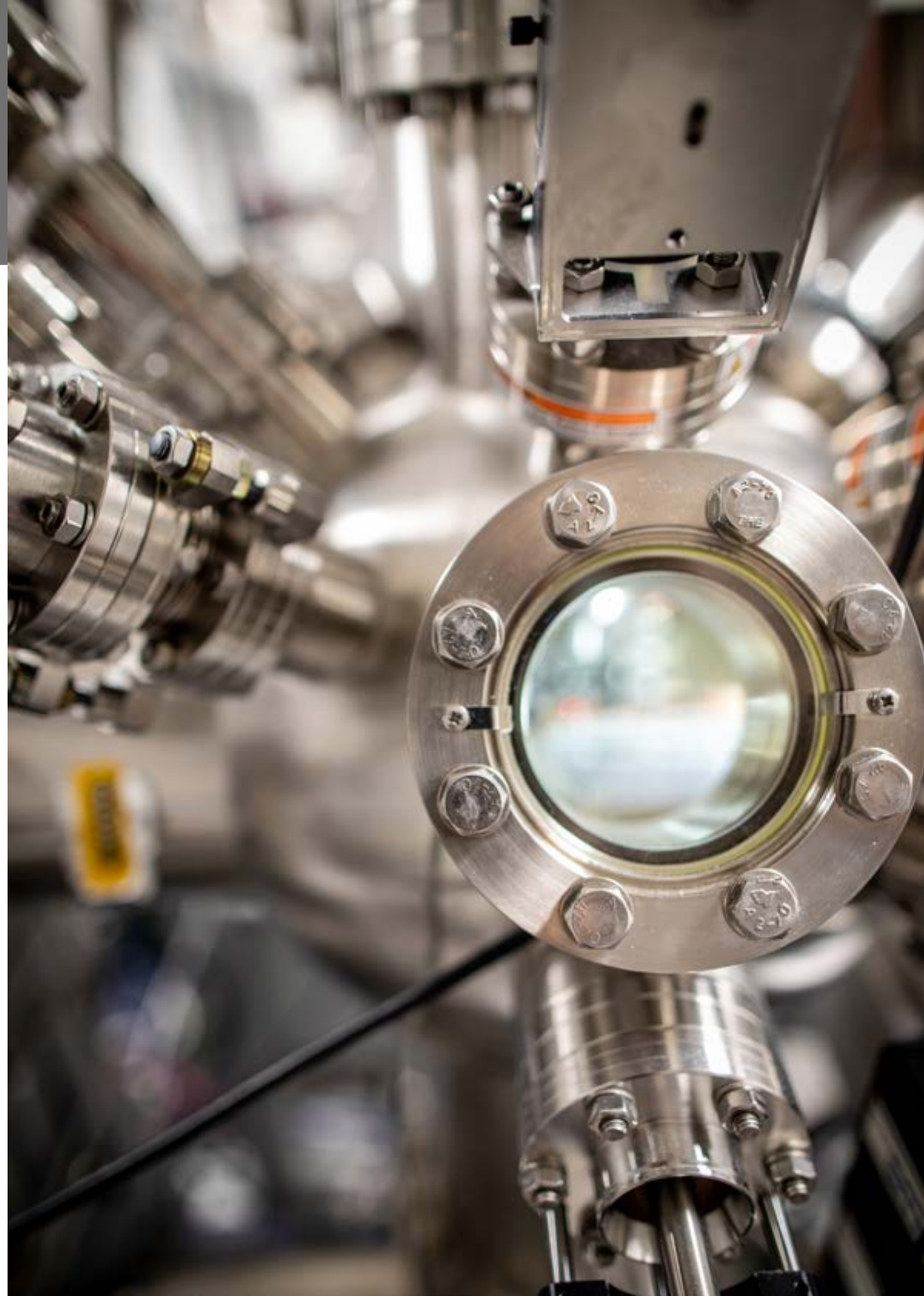
Project classification definitions

The funding intensity table is established from the UK's new Subsidy Control Act under the streamlined RD&I route. In determining project classification businesses need to determine which of the following definitions reflects the work conducted in the majority of their work packages.

"Feasibility study" means the evaluation and analysis of the potential of a project, which aims at supporting the process of decision-making by objectively and rationally uncovering its strengths and weaknesses, opportunities and threats, as well as identifying the resources required to carry it through and ultimately its prospects for success.

"Industrial research" means the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services.

"Experimental development" means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services.



Appendix C
Worked examples

EXAMPLE 1

University AB partners with company YZ Ltd, based in Manchester, UK, and are keen to collaborate for a project to explore a feasibility study for the computational design of new anti-corrosive materials.

University AB initiates their internal costing processes to determine its costs and determines that the full economic costs of the work are £60,000. Company XY Ltd, a small company, determines that the cost of labour and materials is £40,000. If the grant application is successful the grant will pay:

Project partner	Project cost	Intensity	Grant payable
University of AB	£60,000	80%	£48,000
XY Ltd	£40,000	70%	£28,000
	£100,000 total project costs		£64,000 total grant payable

EXAMPLE 2

A research and technology organisation (RTO) partners with company VY Inc, based in the USA. They are keen to conduct an industrial research project to explore the thin-film deposition of new materials.

The RTO initiates its internal costing process and determines total project costs of £80,000. Company VY determines total costs of £40,000.

As the company is based abroad, it is ineligible to receive grant funding. The company prepares a letter outlining its £40,000 in-kind contribution to the project, submitted as part of the proposal submission. They are not required to include costs within the costing document.

If the grant application is successful, the grant will pay:

Project partner	Project cost	Intensity	Grant payable
RTO	£80,000	100%	£80,000
VY Inc	£0	-	£0

EXAMPLE 3

The University of BC partners with company KR Ltd, based in Leeds, UK to explore the feasibility of a technology to prolong the lifetime of green electrolysis.

The University of BC has project costs of £100,000. KR Ltd does not wish to claim a grant and further contributes £30,000 of in-kind costs, which includes access to staff time, consumables, and its facilities.

As part of the application, KR Ltd is not required to complete the costing document but is required to prepare and upload a letterhead outlining the in-kind support towards the project costs.

If the grant application is successful, the grant will pay:

Project partner	Project cost	Intensity	Grant payable
University of BC	£100,000	80%	£80,000
KR Ltd	£0	-	£0

CONTACT DETAILS:

Please email any queries to: grants@royce.ac.uk

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