HENRY ROYCE INSTITUTE

ADVANCED MATERIALS RESEARCH & INNOVATION

ROYCE

INDUSTRIAL COLLABORATION PROGRAMME

ROUND 5 2025
Competition Guidance

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ROYCE INDUSTRIAL COLLABORATION PROGRAMME

ROUND 5 (2025)

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 of total project costs between £50,000 and £130,000 for exploring innovative ideas with a focus on technology translation. Up to 3 partners may collaborate on each project. These awards are not offered to support fundamental research projects.

Scope of Eligible Topics

Overarching theme	Scope area
Sustainable materials innovation	• Materials innovations to support sustainability across the foundation industries (cement, metal, glass, chemicals, polymers, paper and ceramics sectors), including design, production, use, and end-of-life considerations • Resource efficiency and scarcity: innovations in materials use and recycling to address the scarcity of critical minerals and reduce dependence on limited resources.
Extending Life of Major Assets through Materials Science	• Performance Enhancement and Degradation Mitigation: Development of surface treatments, coatings or repair strategies to enhance or extend lifespan of large infrastructure assets • Smart infrastructure management: Solutions that enable structural material health modelling (prediction), measurement and monitoring
Advanced Materials for next generation Quantum and Semiconductor Devices	• High-frequency Telecommunications, Sensing and Power Electronics • New functionalities, Heterogeneous Integration, and Metamaterials • Thin film development for Low-Power Electronics
Energy Materials and Green Hydrogen Technologies	• Materials for production, storage, transport, and utilisation of hydrogen in gaseous and liquid form • Advanced energy materials: energy harvesting, storage and conversion technologies for efficient, scalable solutions
Healthcare Innovation	• Material innovations in healthcare: Materials for medical applications that interface effectively with biological systems to realise a healthier population.

Cross-cutting capabilities:

We encourage translation of digital methods within the above areas leveraging Materials 4.0 approaches which may combine with advanced experimental methods e.g.:

- Accelerated Materials Design: Leverage simulations, modelling, artificial intelligence (AI), machine learning (ML) and large language models (LLMs) to predict behaviour and optimise properties, reducing experimental reliance.

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- Smart Manufacturing of materials: Utilise digital twins, data-driven control, and automation to optimise processes and enhance efficiency.

- Data-Driven Discovery: Applied AI/ML/LLMs for materials informatics to accelerate discovery and analysis of data. Modelling capabilities: Predict and explain material behaviours to accelerate the design of new materials.
- Simulation capabilities: Develop rapid (real-time) simulation methods, including data driven and surrogate models, to support development of digital twins to mirror physical processes.

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 total funding will be awarded across the project portfolio.

Key Dates

Date	Event
17 March 2025	Competition opens
19 March 2025	Briefing event
12 May 2025	Competition closes
w/b 14 July 2025	Applicants notified
1 October 2025	Project start

GDPR Statement

The information provided will be processed for the application, review and award of the Industrial Collaboration Programme (ICP) Round 5 funding.

If successful, this data will also be used for communication and reporting. Any personal data will be managed and retained in accordance with The University of Manchester's Collaborator/Partner Privacy Notice, Records Retention Schedule and Flexi-grant's GDPR guidance. EPSRC funded projects are also managed in accordance with UKRI Standard Terms and Conditions of Funding, and Innovate UK awarded project data will be retained for 10 years.

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

Section 2: Eligibility

Project Size

Total project costs must be between £50,000 and £130,000

Project Details

Your project team is expected to:

- Include at least one business and at least one university or RTO
- Able to start from the 1 of October 2025 at the latest
- Complete all Royce-funded activity by 28 February 2026
- 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

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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 (e.g. R&D Manager, Chief Technology Officer or equivalent)
- A researcher holding an academic position (e.g. lecturer or equivalent)
- Holders of early career fellowships who are granted 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 4 of the grant application. Senior application scientists are eligible to be a Co Investigators on proposals and application scientists are eligible to be Researcher Co Investigators if either has significant input to the research. Co-investigators will be expected to undertake grant management responsibilities in addition to their research roles.

Section 3: Funding Model and Eligible Costs

Grant Type

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 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).

Funding Model for companies

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

	Feasibility study	**Industrial research**	**Experimental development**
Small Enterprise	70%	70%	45%
Medium Enterprise	60%	60%	35%
Large enterprise	25%	25%	25%

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.

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Funding Model for universities, RTOs and non-profits

Academic, non-profit, and research and technology organisations undertaking non-economic activity can obtain a grant equal to:

- 80% of their project costs if using Full Economic Costs (FEC) or
- 100% of project costs for RTO, charity and not-for-profit organisations conducting non-economic activities

Eligible Costs

For organisations using Full Economic Costs

Project leads must contact their research support/pre-award 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 per **partner**. The maximum cost of minor equipment is £10k per **project**.
	Equipment usage	**For Royce facilities, costings should be obtained from the appropriate facilities manager. Contact details can be found in appendix D** Royce facilities are funded at 80% FEC.
	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. Please complete this enquiry form at **least 2 weeks** before the competition deadline with the full expected project costs and subcontractor costs
Directly allocated:	Investigator time	
	Technicians, Technical specialists, Industry fellows	
	Application scientists	Costings including hours requested and cost/hour should be obtained by completing this enquiry form **4 weeks** before competition deadline
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 and application scientists that there is a sufficient time allocation to ensure the work can be completed on time.

Use of Royce Application Scientist Team

Application scientists are agile postdoctoral-level scientists based across Royce partners. They are available to conduct short-term experimental and analysis work to facilitate project delivery, which may includeproject scoping, management, experimental work, data analysis and reporting.

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Where a project conducts work in an area where there is direct overlap with expertise of an application scientist (see below table 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). Senior application scientists are eligible to be a Co Investigators on proposals and application scientists are eligible to be Researcher Co Investigators if either has significant input to the research.

Application scientist support is available at the following locations:

Location	**Expertise**
Manchester	Chemistry, surface chemistry, sustainable polymers, polymer synthesis and characterisation, chemical sensors, nanomaterials, 2D materials, graphene, nanocarbon/nanoparticle hybrids, nanocomposites, catalysis/characterisation, electron microscopy, polymer/ceramic composites, additive manufacturing, bioprinting, hydrogels, fibre spinning, textiles, metallurgy, corrosion and protection, electrochemistry, superconducting coatings, X-Ray tomography, life cycle analysis.
Sheffield	Metals processing, powder metallurgy, field-assisted sintering technology, titanium alloys, ceramic processing and characterisation, process development, scale up and optimisation
Leeds	X-ray analytical techniques including X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), small angle X-ray scattering (SAXS), X-ray computed tomography (XCT), electron microscopy, particle size analysis, compositional analysis, crystallography, ceramics, mechanical testing.
Oxford	Electrochemical and design aspects of lithium-ion batteries. Handling air-sensitive materials, performing all stages of cell building (from material synthesis to full cell construction), and conducting routine and specialist analysis. Cell Fabrication - Coin, pouch; mixing, coating, calendering, cell assembly. Experience up to pilot scale - automated cylindrical cell assembly and reel-to-reel coating (at other locations). Electrochemical formation/grading, CV, polarisation, impedance, rate, resistance and retention cycling. Analysis - SEM/EDX, CT scanning (other locations), PSD, Titrations, DSC, TGA, XRD, GC, MS, IR. Fault finding and analysis, mechanical testing.
Cranfield	Coating deposition, thin films, thermal spray, CVD, PVD, microstructural analysis, hydrogen permeation barriers, heat treatment, corrosion, analytical techniques

Projects requesting application scientist support must complete this enquiry form at least 4 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?

For industry / RTOs / not-for-profits:
The project follows UKRI's costs guidance for non-academic organisations.

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Item	Note
Labour	PAYE costs only
Overhead	Royce funds a flat 15% rate for labour for overheads only
Consumables and minor equipment	The maximum individual consumable cost is £10k per partner. All items procured under this category must be used solely for research and not for commercial purposes. The maximum cost of minor equipment is £10k per **project**.
Capital expenditure (>£10k)	Ineligible
Capital usage/equipment usage	Allowed as per UKRI guidance
Subcontractor costs	With prior agreement. Please complete this enquiry form at least **2 weeks** before competition deadline with the full expected project costs and subcontractor costs
Travel and Subsistence	Max £5k

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 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 project costs limit and will be required to be included in the contractual collaboration agreement, which must be signed between project partners.

VAT treatment of grant income by grant recipients.
UKRI grants are not considered to be payment for services; they are provided without expectation of any supply or direct benefit to the grant funder or The University of Manchester. As a result, VAT does not arise, and any invoices submitted by the grant recipient should not include VAT. They should be issued 'outside the scope' of VAT.
Please note this reflects the UKRI funding conditions for the grant and does not constitute VAT advice provided by The University of Manchester.

VAT treatment of grant expenditure.
Recoverable VAT (i.e. where it can be reclaimed from HMRC via a VAT return) should not be included within grant claims. It is not a cost to the grant recipient.
Academic participants and industry partners can legitimately claim irrecoverable VAT incurred as part of their costs (i.e. VAT that is not reclaimed from HMRC).
Organisations that are not VAT registered can include all VAT incurred on relevant expenditure within their claims.

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.

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

Section 4: Completing and 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.

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Scope

Describe how your proposal meets the competition scope. If a majority of assessors find your proposal out of scope, it 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 must 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 must 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
- Provide a detailed breakdown and justification of what the funding will be spent on, including costs for personnel, consumables, equipment, travel, facilities and overheads for each project partner requesting a grant.
- Your freedom to operate, for example, patents, Intellectual Property
- Explanation of project classification assignment

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

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

Section 5: Next Steps

Your application will be shared with, and scored by an independent panel made up of experts in the field from industry and academia, and moderated by an internal Royce panel.

Royce will provide all 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::

- Confirm your acceptance of the grant on the Flexigrant Portal.
- If the project is led by a non-Royce partner, a signed copy of the award letter will be required within 2 weeks.
- A collaboration agreement between the project partners which could be based on a Lambert template for university and company collaborations. This should be submitted within 1 month of the project start. The project partners are responsible for negotiating this after the award, preferably to be agreed before a project commences.

No project funds will be released until the documents listed above have been received and approved.

Contact details:
Please email any queries to: grants@royce.ac.uk
To apply please visit https://www.royce.ac.uk/industrial-collaboration-programme/

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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 UK 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 and 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.

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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.

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Appendix C: Worked Examples

Example 1

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

University AB initiates its 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	Funding intensity	Grant payable
University of AB	£60,000	80%	£48,000
XY Ltd	£40,000	70%	£28,000
	£100,000 total project cost		£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	Funding 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	Funding intensity	Grant payable
University of BC	£100,000	80%	£80,000
KR Ltd	£0	-	£0

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Appendix D: Royce Facilities

For access to Royce facilities, the appropriate facilities managers should be contacted by applicants to confirm equipment name, costings and time required to be included in your application.

- Cranfield University royce@cranfield.ac.uk
- Imperial College London royce@imperial.ac.uk
- National Nuclear Laboratory royce@uknnl.com
- The University of Sheffield royce@sheffield.ac.uk
- UK Atomic Energy Authority royce@mrf.ukaea.uk
- University of Cambridge royce@maxwell.cam.ac.uk
- University of Leeds royce@leeds.ac.uk
- University of Liverpool mifinfo@liverpool.ac.uk
- University of Oxford royce.access@materials.ox.ac.uk
- The University of Manchester royce@manchester.ac.uk