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METAMATERIALS INDUSTRIAL COLLABORATION PROGRAMME GUIDANCE

Section 1 Overview

1.1 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. There can be a maximum of 3 partners collaborators on each project. These awards are not offered to support fundamental research projects. It is anticipated that there will be approximately £1m of total funding awarded across the project portfolio.

1.2 Background

Metamaterials present distinct opportunities to advance each of the five Critical Technologies set out in the UK's Science and Technology Framework. Potential application areas for metamaterials are vast and are becoming increasingly pervasive as the diversity of metamaterials technologies in development increases.

The scope of use for these technologies includes managing high temperatures in space applications, compact augmented reality optics, biosensors, anti-microbial materials, or more efficient solar panels and wireless charging. Research in the field will benefit numerous industrial sectors, encompassing ICT, defence & security, aerospace, and healthcare amongst others.

Royce's Metamaterials Industrial Collaboration Programme has been created to accelerate the scale-up of metamaterials research by enabling universities and research and technology organisations (RTOs) to collaborate with industry partners. Ensuring that the cutting-edge technologies and scientific advancements in the field are delivering benefit to society as a whole.

1.3 Scope

The Metamaterials Industrial Collaboration Programme competition is focussed solely on accelerating the translation of innovation in metamaterials.

For the purposes of this competition, applications must meet the definition of a metamaterial developed by the metamaterials community, which is accessible here or by following this link.

Proposals must demonstrate how the designed metamaterial or metasurface structure offers advantages over what can be achieved with conventional materials – for example through performance, cost or functionality.

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Applications should aim to propel research developments to the next level, identifying or exploiting potential market opportunities through outcomes focused research and innovation. This call is designed to showcase market interest in metamaterials, as such proposals should clearly articulate their industrial relevance and how the project will build towards an application or adoption of novel metamaterials technology.

1.4 Strategic alignment

Where relevant, applicants are also asked to consider how their project links with the six overarching priority areas from the National Materials Innovation Strategy:

- Energy Solutions – Rising to the net zero challenge
- Future Healthcare – Delivering beyond biocompatibility for active medical solutions
- Structural Innovations – Strengthening our infrastructure, built environment and transport systems
- Advanced Surface Technologies – Enhancing product functionality, performance and lifetime
- Next-Generation Electronics, Telecommunications & Sensors – Driving the future of high-performance connectivity and computing
- Consumer Products, Packaging and Specialist Polymers – Paving the way for a greener tomorrow

And the UK Government's six Plan for Change missions:

- Strong Foundations
- Kickstarting Economic Growth
- An NHS Fit for the Future
- Safer Streets
- Break Down Barriers to Opportunity
- Make Britain a Clean Energy Superpower

Section 2 Eligibility

2.1 Project size

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

2.2 Project details

To be eligible, your project must:

- Include at least [1] one business and [2] one university or RTO
- Start on 01 March 2026
- Complete all Royce-funded activity within 5 months of the start date
- 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

2.3 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

Only UK-registered companies may participate. International companies are not eligible for participation.

Individuals can submit only one EOI however can collaborate on one additional EOI proposal (e.g. be named on this). Individuals can be involved in a maximum of two projects (e.g. lead one and be co-applicant on another, or be co-applicant on two).

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 Page 4 ('Workplan and costs) of the grant application. Where either has had significant input into the research, senior application scientists are eligible to be a co-investigators and application scientists are eligible to be researcher co-investigators. Co-investigators will be expected to undertake grant management responsibilities in addition to their research roles.

Section 3 Funding Models and Eligible Costs

3.1 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).

3.2 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.

3.3 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

3.4 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	Consumables costs must be reasonable, project-specific, and fully justified. The maximum individual consumable cost is £10k. 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

Item	Eligible cost	Notes
	Subcontractor	With prior agreement. Please complete this enquiry form 4 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.

3.5 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 include project scoping, management, experimental work, data analysis and reporting.

Where a project conduct 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,

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Location	Expertise
	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.

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 4 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 collaborator 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 collaborators.

3.6 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.

3.7 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 collaborators 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.

3.8 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

4.1 Application stages

This metamaterials funding call will use a two-stage process for selection:

1. Expression of Interest (EoI) – applicants will submit a brief expression of interest by 26 August 2025.
2. Full proposal - eligible proposals will then be invited to continue to a full application on 15 September 2025. Full proposals must be submitted by 10 Nov 2025.

Projects are expected to start from March 2026 and Royce-funded project expenditure must be completed within 5 months of the start date.

Late submissions will be not accepted.

4.1.1 Expression of Interest

During this EoI stage, in addition to applicant details and alignment of the proposed project with the National Materials Innovation Strategy, applicants will be asked to provide a project summary (maximum 250 words) which details how the project meets the scope of the Metamaterial ICP and how it will accelerate the translation of innovation in metamaterials.

4.1.2 Expression of Interest assessment

EoIs received will be reviewed by two independent reviewers who will assess if the proposal received is in or out of scope, or partially in scope. Only the ‘project summary’ response in the EoI is reviewed.

To progress to the full application, the project must be assessed as, at least, partially in scope by both reviewers.

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4.1.3 Full proposal

Proposals assessed as at least partially in scope will then be invited to continue to a full application.

In the application, applicants will be asked to detail:

- The problem and how the proposal addressed this
- A workplan and budget
- Why and how project partners are capable of delivering the project
- The impact of the project

4.1.4 Evaluation of full proposal

Proposals will be evaluated by a panel of independent reviewers who will score each above element from a maximum of 25 points.

4.2 Feedback

Royce will provide all applicants with feedback.

4.3 Award

If your full proposal 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 after being awarded.
- 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 after 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.

Section 5 Timeline

Date	Event
	Expression of Interest opens
26 August 2025	Deadline for Expression of Interest
15 September 2025	Invitation to full application

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10 November 2025	Deadline for submission
w/b 02 February 2026	Notification of outcomes
1 March 2026	Project start
31 July 2026	Project end

Contact details:

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

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

GDPR Statement

The information provided will be processed for the application, review and award of the Metamaterials Industrial Collaboration Programme 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.

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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.

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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