Transforming Systems through Partnership

2019-20

Guidance for Applicants

Contents

Introduction

Introduction to the Royal Academy of Engineering & The Newton Fund

The Royal Academy of Engineering is the UK's national academy for engineering. The Academy brings together the most successful and talented individuals and organisations from across the engineering sectors to advance and promote excellence in engineering for the benefit of society.

The Newton Fund is an investment made by the UK Government's Department of Business, Energy and Industrial Strategy (BEIS) and forms part of the UK's ODA commitment. Its aim is to develop science and innovation partnerships that promote the economic development and welfare of developing countries. The Royal Academy of Engineering is a delivery partner to the fund.

Transforming Systems through Partnership

To solve today's most pressing development and sustainability challenges, academics need to work with industry, government and communities to build trust, design appropriate solutions and scale their uptake whilst training the next generation to do so. The Transforming Systems through Partnership (TSP) programme will build engineering teaching, research and innovation capacity within partner countries' universities and research institutes to collaborate with UK academics in meeting complex, interconnected challenges in partner countries and at a global level.

The programme provides grant funding, engagement and networking opportunities between innovation, research and education institutions with their counterparts in industry, government and communities to find holistic solutions to major challenges in areas such as water resource management, agriculture and food security, clean energy, and healthcare accessibility and innovation.

Awards provide funding of up to GBP 80,000 for partnerships to conduct activities in support of the Programme Objectives. The Award amount requested **must be matched by at least 50%**. Please see the section on match funding on page 19 for more details.

All collaborations under this call must begin during **April 2020** and end by **30th April 2022.**

Programme Details

In brief

Transforming Systems through Partnership seeks proposals for strategic partnerships that focus on one of more of the following areas:

1 **Challenge-led research and innovation** by partnerships of universities, industry and other stakeholders that leverage UK expertise to build lasting solutions to pressing national and global development issues.

Deep, sustained partnerships in course design and delivery between universities, employers and other stakeholders to improve the quality, relevance and uptake of engineering degree programmes. **2**

3 **New models of collaboration and information sharing** that facilitate high-quality engineering education, research and policymaking and enable innovators to bring new products and services to market.

All proposals should pay attention to:

- Ensuring the deep engagement by academia of other organisations such as industry, government and NGOs who are affected by the challenge being addressed (stakeholders) in their partnerships either through direct collaboration or through stakeholder engagement activities and stakeholder management policy
- Ensuring that diversity and inclusion is explicitly addressed in their proposals.
- The use of emerging technologies and novel techniques in the delivery and sustainability plan of their project.

Creating Change Across Systems

We encourage applications to reflect the understanding that development challenges arise from a complex set of relationships between many individuals and groups, and the environmental, social, technological and political contexts where the challenge is taking place. For example, holistic and well-engineered approaches to addressing food security in water scarce regions would necessarily require engagement with issues such as clean energy and industrial sustainability, patterns of consumption and natural resource stewardship. For any engineering solution which secures food supplies to be implemented at a meaningful scale, there is need to engage with the political, economic and social context impacting interconnected food, water and energy issues and seeing them each as component parts of a 'system'.

As such we highly encourage projects to take a holistic approach to the challenge they address, aiming to bring about lasting impact by engaging stakeholders in multiple sectors across a whole system:

- Groups who are contributing to or affected by the challenge, or dictate its incentives and/or governance – for example government departments, regulators, municipalities, industries, businesses, NGOs, public and community groups.

- Individuals and organisations across the teaching, research and innovation system – for example start-ups, industries, researchers, educators and innovators able to develop and apply solutions, bring innovations to the market, and train the next generation in doing so.

More Information on "Systems Thinking"

- For our thoughts on the need for collaboration over shared challenges please watch this video from the Global Grand Challenges Summit 2019.

- For more information on what the Academy understands by a systems thinking approach, please see this report as it applies to the health and care sector.

- For Case Studies of multi-stakeholder collaboration over large challenges which have already been funded, please see here

Application Timeline

Applications Open
- Monday 11 November 2019
- Submit proposals via Academy's Grant Management System

Application Deadline
- 12 pm Friday 10 January 2020
- Eligibility checks conducted
- Panel review period begins

Decision
- Mid-late February 2020
- Awardees decided and notified
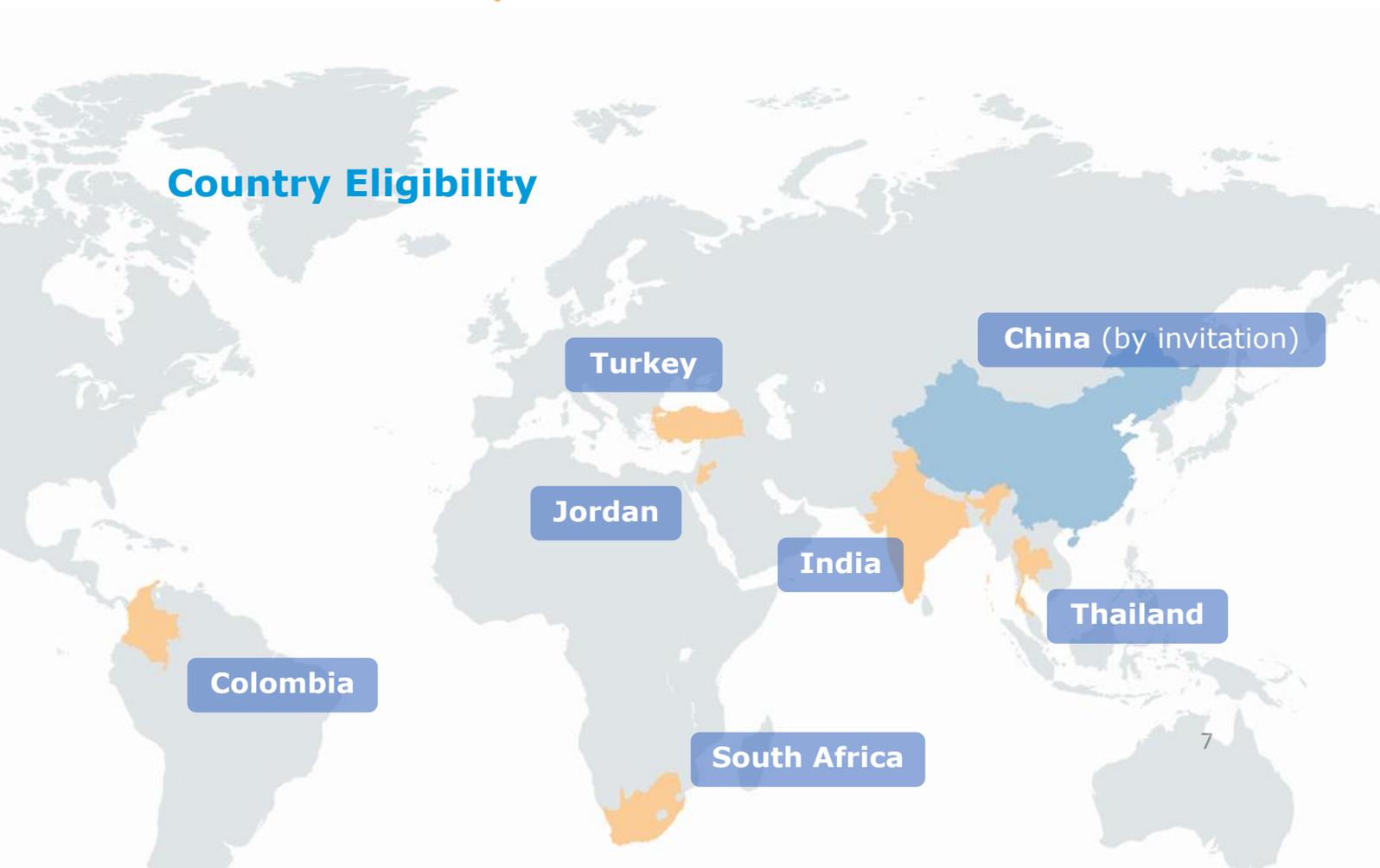- Feedback to unsuccessful applicants

Finalisation
- March 2020
- Finalisation of offers
- Planning of grant implementation begins

Eligibility Criteria

Partnership Composition

- The Lead Partner will be a university in the Partner Country

- The Lead Partner must partner with at least one UK academic institution, and one local industry partner

- Partnerships are strongly encouraged to engage additional partners from other stakeholder organizations, and national and UK industry

Mandatory Partners

Country Eligibility

Turkey

China (by invitation)

Jordan

India

Thailand

Colombia

South Africa

How to Apply

Who should make the application?

Applications should be submitted by a suitably senior representative of the Lead Partner (the Partner Country University). The lead university will act on behalf of all other partners and will consult with the UK university partner and the local industry partner in developing the proposal. All correspondence from the Academy will be sent to the lead university.

Where should the application be submitted?

All applications should be submitted via the Academy's online grants management system: https://grants.raeng.org.uk. The lead applicant must first provide some personal details to register with the system. **Please use Internet Explorer to access the Grant Management System.**

What is on the application form?

The purpose of the application form is to assess whether proposals will deliver the objectives of the TSP programme, and that partnerships meet the scheme's eligibility criteria.

The notes in the next section of this document are a detailed guide to the information applicants should provide in each section of the application form and the supporting documents that should be included with the proposal. We encourage applicants to refer closely to the guidance notes while developing proposals.

The application form has five sections and should take approximately two hours to complete. We recommend that applicants compose the application first and copy and paste the responses into the online system.

You will have the option to download a pdf of your application after submission, which may be useful for future reference and for passing on to your colleagues.

Application Form Guidance

After logging in to the system via the Academy website and selecting the **Transforming Systems Through Partnership 20/21** you will be presented with the "Instructions" screen. Here you will see some general instructions on how to use the system as well as the following list of the five sections on the application form:

1. Applicant and institution details
2. Project details
3. Case for Support
4. Support requested
5. Statement of support and declaration

At any stage in the application process you can save your work and return to it later. You can answer the questions in any order, and you may freely skip some sections to return to later if you wish. It is therefore advised to view the application early on for an indication of what is required, and you should also ensure that you have all the necessary documentation at hand when you start completing the application, such as a copy of all CVs.

1. Project Summary

Q - Project title
Please provide a project title. Should the application be successful, this title will be listed on the Academy's website.

Q – Summary/abstract
The project summary should provide a brief overview of your aims, the programme of activities and how the activities of your project will achieve your aims. The summary should be written in language that can be understood by a non-specialist reader. (maximum 300 words)

Q – Total project cost
Please enter the total project costs, which is the total value of funding sought from the Academy's grant **and** the value of matched resources from the partnerships and other sources of funding.

Q – Funding sought
This should state the exact amount of funding sought from the Royal Academy of Engineering within the grant. (**Please note:** Academy funding cannot exceed £80,000)

Q - Which TSP Partner Country is your project with?
Please choose your country from the dropdown list.

Q – Please provide keywords relating to the project
Please identify keywords from the list provided which will assist the academy in selecting suitable reviewers for your proposal.

Q - Start and end date

Please enter the start and end date of the proposed project. Projects can last for up to two years.

Projects must start during **April 2020** and end by **30th April 2022.**

Q - Is this a new collaboration or a pre-existing collaboration?
Please select which option applies from the drop-down list. The scheme allows both *new* collaborations and excellent proposals based on existing links or collaboration.

Q – If this is a pre-existing collaboration, please detail the extent of the collaboration, whether this is a continuation of an existing project, and the added value the Academy's support for this new exchange would provide

This additional question will only be displayed if 'pre-existing collaboration' was selected as the answer to the previous question. Please demonstrate how Royal Academy of Engineering funding will add value to your proposal to continue or add to the collaboration. Please also include information on the type and timing of any past and present links and collaboration, and state when the applicants have met in person. (max 200 words)

2. Applicant, institution and partnership details

Please provide details of researchers and their respective institutions involved in this project.

Q. Please provide contact details of the Lead Applicants
These are the details we will use to contact the Lead Applicants. The individual from the Lead University in the Partner Country (China, Colombia, India, Jordan, South Africa and Thailand) submitting the application is the Lead Applicant and the Co-applicants are the main collaborators from the partnering UK and Partner Country academic and industry institutions.

Q. Participating Collaborators
Please provide details of every collaborator participating in the proposed programme of work. If there are many collaborators then please restrict to the core collaborators responsible for overseeing delivery of the project.

Q. CVs of participating Collaborators
Please upload CVs for all collaborators participating in the proposed programme of work.

CVs should be a **maximum of four pages long**. There is no set format for the CV, but it should include information on posts held in at least the last five years, education history and qualifications (with dates), evidence of eminence and seniority (for example, awards and prizes, invited lectures, national/international committee membership/leadership). CVs longer than **four** pages will not be accepted.

N.B. For collaborations with several different university and industry partners, please only include CVs of the core collaborating team.

Q – Organisation details

Please upload **one** document with narrative summary details of the lead university and all partnering institutions. Descriptions of each organisation should be no more than 200 words and should include:

For Partner Country Universities and Research Institutes:
  ○ Dates the institution has been in existence
  ○ Engineering courses offered
  ○ Number of students and staff and number in research group
  ○ Indicators of track record (rankings, awards etc)
  ○ Link to website for engineering faculty

For industry partners:
  ○ Nature of business and types of products/ services offered
  ○ Indicators of size (e.g. number of employees, turnover etc.)
  ○ Scale and scope of research and development activity

For UK Universities and Research Institutes:
  ○ Name of department, institution
  ○ Indicators of track record (rankings, awards etc)
  ○ Link to website for engineering faculty

Please also mention whether any partner is participating in more than one application.

Q –Role, contribution and benefits to industry partner and other stakeholders

Provide justification for the choice of industry and other stakeholder partners including the strategic importance of this relationship to you and your institution. Specify the exact role of the industry and stakeholder partners in this programme. Provide details of what has been achieved so far through any existing collaboration and what is the overall perceived long-term vision for this relationship.

You have up to 350 words to answer this question.

Q – Role, contribution and benefits to UK partner and the UK more widely

Provide justification for the choice of the UK partner including the strategic importance of this relationship to you and your institution. Specify the exact role of the UK partner in this programme. Detail the overall long term vision for this relationship and the expected benefits to the UK partner and UK in general. (max. 350 words)

Q – Partner Country University and UK Academic Institution Letters of support

Letters of support are required from **each partnering university or research institution in the Partner Country or the UK**. Letters of support should be written by the applicants' respective Heads of Departments (or Heads of Faculty if either of the Applicants is the Head of Department). As a minimum the author should include:
  - Confirmation of their support for the application
  - Why they support the project
  - How it fits in with the department's aims

- What form the matched contribution will take (financial, staff time, guidance, facilities, equipment)

The letters should be on headed paper, a maximum of two pages long, signed by the author, and uploaded by the Applicant as pdfs.

Please note: Failure to supply a letter of support from each institution will result in your application being deemed ineligible for consideration. The quality of institutional support is a key factor in the strength of the application and the confirmation of support in the letters are crucial for The Academy to determine the level of commitment from each institution.

Q – Letter of support from the industry partner
Upload a signed letter of support from the industry partner named at the start of the application, confirming their commitment to this applicant and the proposed secondment.

The letter of support should contain the following:
- Confirm the industry's commitment to this programme and explain why this collaboration is strategically important to them and what the anticipated benefits will be.
- A brief description of the planned work, and how this fits within the company's aims and activities.
- Detail what facilities, training and equipment will be made available to the project, and any other contributions they will make to the award.
- Affirmation of the contribution of the industry to the programme, in terms of cash, facilities, equipment, staff time etc.

The letter should not exceed two pages and should be submitted as a PDF.

Please note: Failure to supply a letter of support from each industry partner will result in your application being deemed ineligible for consideration. The quality of institutional support is a key factor in the strength of the application and the confirmation of support in the letters is crucial for the Academy to determine the level of commitment from each industry partner.

3. Goals, Objectives, Outcomes and Impact

Q - Goals and objectives
Please state up to three main objectives for the collaboration in bullet point form. (maximum 300 words)

Q –What is the technical and national context of your collaboration and what makes it unique?

Please describe:
- The context in your country that makes your proposal necessary
- The challenges and needs that your proposal will meet
- How your proposal uses emerging technology and state of the art techniques to solve these issues
- How your proposal aligns with local or national policy objectives

You have up to 500 words to answer this question.

Q – What is the scale of the challenge you are addressing and, if successful, what extent do you hope to address?

Please give an evidence based statistic which gives a sense of the scale of the challenge locally (e.g. # people affected) and a numeric estimation of how much of that challenge you are able to reach and address through the project,

Q – What are the expected outcomes and impacts of the project for your University/ Research institute and the wider engineering community and general public in your country?

Please outline how this grant will help to build lasting capabilities and generate wide impact in your institution and the wider engineering community in your country. Please discuss:
- The expected outcomes and impacts that will accrue to your own university
- Plans for activities you will undertake to maximise the benefits of the programme for the wider engineering community and general public. These may be other/further collaborations, dissemination activities, internships, student projects, training workshops, public engagement, teaching, routes to exploitation/ commercialisation etc.

You have up to 500 words to answer this question.

Q – What metrics for success would you consider suitable for the project?
Please give up to 5 specific indicators and targets you hope to achieve with the project to demonstrate success in bullet point form.

Q – How will the collaboration continue following the Academy's support and how will the outcomes be built upon?
Provide details on how you will sustain the outcomes of the project, for example, the plans you have to maintain collaboration between the partners in the proposal. Please also provide information about how this will be funded.

You have up to 300 words to answer this question.

Q - Stakeholder analysis and engagement
Identify and list the project audience, stakeholders/public, who might be interested and benefit from this project as well as those who might oppose. For each stakeholder group, , describe the "how" and "what" benefits/ detriments they will get when the project goals have been achieved and if/ how you intend to engage them during the course of the project.

1. For stakeholders: consider the relative interest each group or organisation has in your work, and their relative influence over your ability to achieve your impact goals. This influence could be negative (blocking you from achieving impact) or positive (enabling you to achieve things that would not have been possible without their help).

2. For public: in addition to considering their relative interest in your work, consider the extent to which different groups (e.g. demographics, interest groups) might benefit from the project.

4. Project planning and resourcing

This section asks for summary details of the application.

Here you will provide the main summary details for the application, covering the dates of the visits, the costs, the general subject area and an abstract of the proposed activities.

Q - Provide a detailed description of the activities to be undertaken
Describe the programme of work to be undertaken during the project including how novel, realistic/ambitious the project is. **Outline what will be delivered, when it will be delivered, and the milestones you will use to measure progress***.
There is an option to upload any supporting documents, figures and diagrams in the next question. Your description should include:

- Description of the agreed work programme(s) against the objectives, including a breakdown of tasks, indicating which team member will lead and in which country they are to take place
- A detailed technical case for the programme of work
- Outline of the planned stages

Please note: All responsibility for arranging travel and accommodation will lie with researchers and institutions involved

You have up to 1000 words to answer this question.

Q – Images and diagrams

Upload any images and/or diagrams related to your project. Upload a single document with the images and diagrams in the order you would like them viewed. They should be appropriately referenced in your previous answer.

You can upload a maximum of one file, so if you have multiple images to display then please collate them into a single file, and be sure to arrange them in the order you would like them viewed. **Please upload in PDF format**.

Q - Gantt chart
Please upload a detailed Gantt Chart outlining your agreed work programme, including a breakdown of milestones, indicators and target dates for specific elements of the work and the cost breakdown associated with each stage. **Please upload in PDF format**.

Q – Breakdown of funding request

Please upload the project budget in PDF format. A budget template is provided and should be used for this purpose – it can be downloaded from this link. Reference to TRF

Whilst the form is to be filled in in Excel format, PLEASE UPLOAD IN PDF FORMAT

(A3 size acceptable).

Please note that the funding shall be awarded to a single partner which can either be the lead partner country university OR the lead UK academic institution. The recipients of grant monies will be expected to provide all parties with the grant resources to enable the programme of activities to take place per the programme budget. Partnering universities should reach agreement regarding who the grant recipient should be and make such financial arrangements before the application is submitted. Evidence of such will be required at the contractual stage.

The total contribution from the Academy must be up to GBP 80,000. This amount must be at least 50% matched by the applying institutions from their own or leveraged resources.

- This programme offers **financial support for (economy class) travel, subsistence and salary support costs** related to your proposed activities amongst industry and academic partners in Partner Countries and the UK.

- There is no set limit on how much you can claim in any one category apart from consumables and other costs, where no more than 10% of the total cost may be requested. 'Consumables' include project specific costs of small equipment, computer software licenses or publication costs. Examples of 'other costs' are conferences and seminar fees.

- Please note that the funding provided by this scheme is ***not*** calculated on the basis of full economic costs.

- Successful applicants will receive 80% of the total award value at the project's start, after contract signature and the remaining 20% at the project's end, upon receipt of a satisfactory final report.

- Additional costs on top of the grant funding must be met by the participating Institutions or leveraged from elsewhere with clear indication with respect to the source of the matched contribution.

1. The funding provided within the grant cannot be used to pay for purchases of large equipment and research infrastructure.

Q - Justification of costs for grant value sought

Please provide a brief narrative explanation of **all costs you are requesting that the Academy's grant cover**, including both what the funds will be spent on and why. We require evidence that you have researched the costs for which you are seeking support; for example, you could include the cost per night of accommodation. Travel costs should be based on the most suitable and economical form of travel. Subsistence costs should reflect the normal rates applied at the host institution/s.

Please Note: This programme offers support for travel, subsistence and salary support costs related to conducting collaborative activities amongst industry and academic partners in the Partner Country and the UK.

You have up to 300 words to answer this question.

Q – Matched funding details

Please provide a brief narrative of the matched funding component which will be provided by the partnering organisations or others in support of the project. The Academy requires that at least 50% of the funds being asked for be matched in contribution by applicants. Additional matched funding above 50% will be viewed positively, being further evidence of the value placed on the collaboration and its potential for impact. For more details on match funding please see page 19 of this document.

You have up to 300 words to answer this question.

Q – Please provide details on the ownership of any pre-existing or future Intellectual Property to be used/ generated and any formal agreements to this effect. –

If the project involves the use or potential generation of Intellectual Property, provide the details of any relevant agreements. If no formal agreement exists or is planned, include considerations on any potential risk to IPR and how the risk will be mitigated.

Please note: In projects which aim to generate IP, The Academy expects the researchers and institutions to agree in writing on Intellectual Property Rights (IPR) before the start of the exchange. Any agreement should allow for agreed dissemination activity to be undertaken unhindered. The Academy will not have any claim on research funded by the scheme.

Guidance on reaching Industry Academia IP agreements as well as model arrangements for collaborative research can be found here: https://www.gov.uk/guidance/university-and-business-collaboration-agreements-lambert-toolkit

You have up to 300 words to answer this question.

5. Lead university declaration

Q – Lead university declaration

The purpose of the declaration is to confirm that the application is acceptable in principle to the Partner Country University, and that it has received all necessary internal authorisations.

The declaration terms below must be transferred to headed paper and be agreed to and signed by an appropriate officer from the Lead applicant's institution/university. A scanned copy of the letter should be uploaded by the applicant. We do not need the hard copy version to be sent through.

A summary of the terms that the declaration must contain is shown below. Please copy this table directly into your Institution's declaration.

The applicant will be employed by the institution/university for the duration of the award.	
The applicant and any co-applicant(s) will be given full access to the facilities, equipment, personnel and funding as required by the application.	
The costs submitted in the application are correct and sufficient to complete the award as envisaged. Any shortfall in funding will be met by the institution/university.	
The institution will ensure that the proposed programme of work has been agreed between all institutions involved in the exchange and that all necessary contracts, visas, IPR agreements, financial processes and other necessary arrangements are in place before the start of the exchange.	
The institution is satisfied that language will not be a barrier in regard to a successful collaboration and, if necessary, sufficient language support and training will be obtained in advance of the exchange visits.	

Assessment of Applications

Proposals will be evaluated by a specially-convened panel of Academy Fellows with expertise spanning the breadth of engineering. Each application will be assessed by a minimum of two panel members, one of who will have expertise in the broad area of research, and one who is a non-expert. Applications should therefore be understandable to the non-specialist engineer. The panel will rank the applications and carry out the final selection of successful proposals.

What criteria will be used to assess applications?

1.   Partnership Capacity and Quality

    1.1.   Do all partners (international and UK) have the appropriate track record and experience to implement the proposal and achieve its objectives?

    1.2.   Does the partnership composition display complementarity, i.e., does the choice of partners encourage synergy and collaboration and avoid overlap of roles, expertise, capabilities and networks?

    1.3.   Do positive relationships (or the potential for positive relationships) exist between the partners in a way which is likely to bring about the successful implementation of the proposal?

2.   Goals, Objectives and Sustainable Impact

    2.1.   How well aligned are the proposal's activities with its goals, and will these goals help to achieve national development priorities as well as the aims of the Transforming Systems through Partnership Programme?

    2.2.   Is the approach taken to solving a national or global development challenge technically novel or innovative in the context of the partner country?

    2.3.   Is the partnership's approach to engaging with stakeholders in the challenge area likely to create change across the whole system which gives rise to the development challenge being addressed?

    2.4.   Will the successful implementation of the project create sustained benefits to the awardees, their wider organisations, the engineering community in the partner country and in the UK, and the wider international community?

3.   Feasibility and Resource Allocation

    3.1.   Is the proposal likely to achieve its objectives given the timeline, resourcing and staffing specified in the application?

    3.2.   Is the budget sufficiently detailed, clear and appropriate to ensure the transparency and accountability of the proposed plan of work?

4.   ODA?

    4.1.   Does the proposed plan of work meet the UK-recognized criteria for what can be funded by Official Development Assistance (ODA) as defined by the OECD's Development Assistance Committee?

What is Match Funding?

In Brief

Grants made through the Transforming Systems through Partnership programme require Royal Academy of Engineering funding to be matched by awardees by at least 50%. This means that if the Academy provides £80,000 of grant funding to awardees, the partnership in receipt of the grant must contribute a minimum of £40,000 in additional resources.

These additional resources can be cash, or "in-kind" contributions. By requiring awardees to contribute their own resources to their projects, match funding ensures robust commitment from all parties in the partnership and increases the scale of the project's potential impact.

The Academy recognizes that some institutions face cash constraints and will assess the match contributions of partnerships accordingly.

Sources of Match Funding

- Cash
- Staff time – the value of the match funding is equivalent to the value of the time worked on the staff member's current salary
- Value of the use of equipment and facilities belonging to one of the partners
- Value of activities conducted by the partnership that have been resourced by other sources of funding