



ROYAL  
ACADEMY OF  
**ENGINEERING**

**LEADERS IN INNOVATION  
FELLOWSHIPS**

**Applicant Guidance Notes – Leaders in Innovation  
Fellowships programme 2018/19**

*The Royal Academy of Engineering is seeking applications from researchers, with strong entrepreneurial potential, to take part in their Leaders in Innovation Fellowships programme. This is a residential training programme in innovation and technology entrepreneurship that will take place, in the UK.*

<https://grants.raeng.org.uk>

## **Introduction**

Working with a select number of partner countries, the objectives of The Royal Academy of Engineering's *Leaders in Innovation Fellowships* (LIF) programme are:

- to build the capacity of researchers for entrepreneurship and commercialisation of their research;
- to create international networks of innovators and technology entrepreneurs.

The programme is aimed at researchers who are about to develop, or are in the process of developing, a business proposition for their innovation. A select cohort of researchers from the same country will benefit from a focussed period of training in the UK, access to expert coaches, and opportunities for international networking. In the short term they will develop, with the support of the programme, a commercialisation plan for their innovation. In the long term they will benefit from access to an international network of peer innovators, in taking their commercialisation plan forward.

The programme builds on the expertise of The Academy in supporting technology entrepreneurs within the UK through a variety of fellowships and prizes. Fellows supported through this programme will benefit from connectivity to The Academy's Enterprise Hub, a network of technology innovators, researcher entrepreneurs, and senior industrialists driving and supporting world class innovation.

The programme is part of the broader UK *Newton Fund* which seeks to build international science and innovation partnerships that promote the economic development and welfare of developing countries.

## The Programme

Fourteen successful applicants ('LIF Fellows') will be invited to attend a ten-day residential programme, in the UK, arranged and supported by the Academy.

**Week 1** – An activity based learning week combined with external visits and master class sessions.

The first week of training involves getting familiar with Business Modelling and Customer Markets along with visits to a UK University Incubator and a site visit to an Industry Partner. The groups will start working with their coaches to start to develop their business plans.

**Week 2** – Intensive training programme in entrepreneurship and innovation leadership

The second week is more classroom style leaning with a training programme hosted by the Royal Academy of Engineering. It consists of a **training programme in innovation leadership**, delivered by expert trainers, and based on existing training programmes of the Academy for UK researchers. The course will focus on skills and knowledge in:

- Operations and leadership;
- Finance, IP and regulation;
- Presenting and pitching to investors and customers;
- Negotiation skills.

Importantly, over the course of both weeks, there will be time for each fellow to develop their own **business plan and pitch decks**, while receiving guidance and coaching. The week will conclude with a competitive pitch session to a panel of expert judges including senior Academy Fellows.

During the programme, LIF Fellows will also benefit from opportunities to network with coaches, representatives of technology driven organisations, and each other. All participants in the LIF programme will automatically join our global international network of innovators and coaches clustered around the Academy's [Enterprise Hub](#).

Please note that the residential programme will be conducted entirely in English.

## Dates and Location

As well as the training and mentoring programme, international flights, airport transfers and other UK travel incurred by the programme, all hotel accommodation, breakfast and evening meals will be paid for by The Academy.

However, please note that successful applicants will be responsible for arranging, and paying for their travel insurance and visa, as required, and covering any other expenses incurred during the programme.

## Follow-on support

After the two-week residential programme, we begin the follow-on support aspect of the programme lasting up to 6 months. This will comprise of the individual coaches from the residential training continuing to provide mentoring and advice to allow LIF fellows to achieve some of the jointly established goals set when designing the business

plan in London. In-country events to keep LIF fellows engaged with the Academy will also be included in the programme.

## **Eligibility Criteria**

Through their research, applicants must have developed (or co-developed), or be in the process of developing (or co-developing) a new technological innovation. Applicants should have the ambition to take a leading role in creating a new business to commercialise this innovation.

Specific eligibility criteria are as follows:

- Applicants must be citizens of, or have full resident status in their respective Newton Partner Country.
- The applicant's innovation can be any new product, technology or service, based on research in engineering defined in its broadest sense to encompass a wide range of fields, including: agricultural technology, biotechnology, chemical engineering, civil engineering, computer science, design engineering, electrical and electronic engineering, ICT, materials science, mechanical engineering, and medical engineering.
- The innovation should have the potential to benefit the applicant's country, or other developing countries, in terms of improving social welfare and driving economic growth.
- The primary application of the innovation must **NOT** be in the defence or military sector.

Note that previous experience of commercialisation or involvement with technology transfer is not required.

## How to Apply/submit your information

All applications must be submitted via the online Grant System, available here: <https://grants.raeng.org.uk>. The application form has five sections to complete. A CV is required as supporting documentation. A summary of the guidance notes below are also imbedded within the system itself.

## Completing the Application Form

After logging in to the online Grant System and selecting the relevant scheme (Leaders in Innovation Fellowships Programme 2018/19 Cohort) you should be presented with the 'Instructions' screen. Here you will see some general instructions on how to use the system as well as the 4 sections of the application form:

1. Applicant details .....	6
2. Career, Achievements and Motivation .....	7
3. Your innovation .....	8
4. Your business plan.....	12
5. Entrepreneurship skills .....	14
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At any stage in the application process you can save your work and return to it at a later time. You can answer the questions in any order you like so you may freely skip some sections to return to later if you so wish

## 1. Applicant details

Please provide your name, institution, and preferred correspondence details.

This section requests additional details about yourself and your suitability for the Leaders in Innovation Fellowship Programme. You will need to answer some questions and upload your CV.

Q - Please select your Partner Country

Q – English skills

Please indicated for each skill your level, either beginner, intermediate, advanced or fluent. It is really important that you answer these language questions as honest and openly as possible because the whole programme will be conducted in English including application, training and follow-on support.

Q- Participating institution details

*Please enter your relevant university or your company details*

Q- Do you have a valid international passport for travelling abroad?

Please indicate if you have a valid international passport which can be used to travel to the UK. If your passport does not have 6 months or more left before expiry, please note that you may not be able to travel with it to enter the UK.

Q-If yes, please enter your passport expiry date.

If you have a valid passport with 6 months or more left till expiry, please enter your passport expiry date.

Q-Are you free to travel to London, UK on the dates stated for your country of application?

Please find your country name and tick the box if you are able to travel on the date stated next to it. If you cannot travel on the date stated for your country, please select the no button.

Q –Dietary requirements

Please notify us of any special dietary requirements you might have (that is, are there any particular foods that you cannot eat). If selected, this information will help us with ordering meals during the training. This information will not be used to inform the selection of participants for the programme.

Q-Special Assistance

Do you require any special assistance during the residential training due to a health condition or disability? Please select yes or no.

Q-Please specify the assistance you will require

Please only answers this if you selected yes in the question above.

## 2. Career, Achievements and Motivation

### Q-Preferred Name

Please give your preferred first name(s) and surname(s). This will be printed on your name badge and certificate of completion.

### Q – Your photograph

Please upload a passport-sized photograph. If your application is successful we will use this photo within the introductory pack for participating Fellows and to be placed in materials for wider publicity of the Leaders in Innovation Fellowship programme, please ensure it is suitable and professional.

### Q - Your CV

Please upload your CV. The format and content of your CV is left to your discretion. Your CV should not exceed two (2) pages, and should be uploaded electronically as a PDF document.

### Q – Your short biography (100 words maximum)

Please give a brief narrative summary of your career and achievements. If your application is successful we will use this biography within the introductory pack for participating Fellows and to be placed in materials for wider circulation and publicity of the Leaders in Innovation Fellowship programme.

### Q – What does entrepreneurship mean to you?

Why are you interested in entrepreneurship training, and how is it relevant to your work? Please explain why you have chosen to work on entrepreneurship and commercialisation of your innovation rather than further research.

### Q- What do you want from the programme?

Which areas and activities do you expect to be supported by your country partner organisation?

Describe which aspects of the LIF programme will be particularly valuable to you in commercialising your innovation, and explain why.

### Q-Are there any lessons that you learned from your innovation that you would like to share with your peers?

Please share with us any lessons you have learned so far in your innovation journey that may benefit your fellow LIF peers. These can be any learnings from personal or professional successes or failures.

### 3. Your innovation

#### Q - Title

Please provide the title of your innovation.

#### Q – Business name

Please provide the name of your business, if different from the innovation title.

#### Q - Technological sector or research area (see page 17)

Please select the major technological sector or research area that your innovation derives from. If it fits into more than one area, please choose one that is most relevant. You will get to specify the technology in the next question.

#### Q-Specific technological sector tags

You can use this question to let us know more about the specific sector your innovation belongs to. Please select all the relevant tags for your innovation.

e.g. If your innovation relates to reducing the environmental impact of waste management services, the tag could appear in 'Environmental' or "Civil". Please choose the most relevant.

See page 16 for a full list of sectors and tags.

#### Q – Any other tags you would like associated with your application

Open text response

#### Q – About your innovation/product/service: What does it do? (100 words max.)

Please give a brief description of your innovation. Use the following questions as a prompt:

- What problem does the innovation aim to solve?
- Why is a solution necessary?
- What solution does your innovation/product/service provide?
- Why is this solution better than existing solutions?

#### Q- About your innovation/product/service: How does it work? (100 words max.)

Please give a brief description of the science or technology that underpins your innovation. Please avoid over-technical language and keep the text simple.

#### Q-Does your innovation promote economic development and/ or social welfare development in your country?

Please state whether the primary purpose/outcome of your innovation is to enhance your country's economic development and/or social welfare development. Yes/No

#### Q – How does your innovation promote economic development and/ or social welfare development in your country? (100 words maximum)

How could your innovation promote economic development and/or social welfare development in your country?

One of the broader aims of the Newton Fund is to promote economic and social welfare development in developing countries. Your answer should clearly identify the

social and economic development problem faced in your home country, and provide an argument with a “clear line of sight” as to how your innovation will help address this problem. A page on what issues should be considered when making an argument for ODA is provided at the end of this document. Not all of these questions need necessarily be answered, but should help in the forming of an answer.

If you are still unsure, please contact your in-country organisation team.

Q –Challenge Areas

Of the UN’s Global Goals for Sustainable Development, which is most relevant to the challenge your innovation addresses? More information and guidance on each challenge can be found at the end of this document. If you want to, you can choose up to two other secondary goals.

More information on the SDGs can be found here:  
<https://sustainabledevelopment.un.org/?menu=1300>



The logo features the United Nations emblem on the left, followed by the text "SUSTAINABLE DEVELOPMENT GOALS" in a bold, blue, sans-serif font. The word "GOALS" is significantly larger than "SUSTAINABLE DEVELOPMENT". The letter "O" in "GOALS" is replaced by a circular icon composed of 17 colored segments, each representing one of the Sustainable Development Goals.



- 1: No Poverty  
**End poverty in all its forms everywhere**
- 2: Zero Hunger  
**End hunger, achieve food security and improved nutrition and promote sustainable agriculture**
- 3: Good Health and Well-being  
**Ensure healthy lives and promote well-being for all at all ages**
- 4: Quality Education  
**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**
- 5: Gender Equality  
**Achieve gender equality and empower all women and girls**
- 6: Clean Water and Sanitation  
**Ensure availability and sustainable management of water and sanitation for all**
- 7: Affordable and Clean Energy  
**Ensure access to affordable, reliable, sustainable and modern energy for all**
- 8: Decent Work and Economic Growth  
**Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**
- 9: Industry, Innovation and Infrastructure  
**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**
- 10: Reduced Inequality  
**Reduce inequality within and among countries**
- 11: Sustainable Cities and Communities  
**Make cities and human settlements inclusive, safe, resilient and sustainable**
- 12: Responsible Consumption and Production  
**Ensure sustainable consumption and production patterns**
- 13: Climate Action  
**Take urgent action to combat climate change and its impacts**
- 14: Life Below Water  
**Conserve and sustainably use the oceans, seas and marine resources for sustainable development**
- 15: Life on Land  
**Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**
- 16: Peace and Justice Strong Institutions  
**Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**
- 17: Partnerships to achieve the Goals  
**Strengthen the means of implementation and revitalize the global partnership for sustainable development**

*Q-What is your stage of technology development?*

Please tick the most applicable box

*Q-What are the next steps you are working on for your innovation?*

Please let us know what steps you need to take for your technology to be ready for production and commercialization and what you plan to be your next actions you are working on for your innovation. Bullet points are encouraged.

## 4. Your business plan

### Q - One line pitch (50 words)

Please provide a one-line pitch for your business. We will use this one line to showcase your innovation in networking events etc.

Use the following questions as a prompt:

- what is it?
- who is it for?
- how will it change the world?

### Q - Business Summary (150 words)

Please provide a short description of your business idea/plan.

Use the following questions as a prompt:

- How will your product/service/innovation reach the customer?
- How will it be profitable?

### Q - Sales Strategy

Please select the option which best describes the sales strategy of your business.

### Q - Customer base(150 words)

Please give an outline of who you think will be the customer for your new product, technology or service.

Use the following questions as a prompt:

- Who will buy/use this innovation/product/service?
- Is there evidence that customers will pay for this innovation/product/service at commercially profitable levels?
- Is anybody else providing a similar product/service? Why will customers choose to buy from you?

### Q-What is your IP Status?

Please tick the most applicable box

### Q-Source of Funding

Please select the option that indicates the source of funding you are next seeking for your business/project

### Q-Have you ever raised commercial investment capital before?

Please tick the most applicable box

### Q- Do you intend to raise commercial capital in the near term?

Please tick the most applicable box

### Q. Business Profile

Please fill out the table with relevant or available details, for the categories:

Number of Researchers:

Number of Employees:

Current or Potential Investors:

Partners: (are you being supported by a partner?)

Capital raised:

Capital pursued:

Grants/Awards received:

### Q-Next Steps

Please select the option which best describes what you are looking for next.

### Q – Major risks (70 words)

Please identify what you think will be the major risks and challenges that you will have to overcome in taking the business plan forward (e.g. lack of funding or securing intellectual property).

### Q- *Thinking of some of your challenges you are currently facing or have faced with your innovation, where do you think you need most support and/or training?*

Please let us know where you think we can help.

## 5. Entrepreneurship skills

Please indicate your level of confidence with each of the skills and subject areas listed. This question will not impact your application; it is designed to help us group participants for the training, assign coaches and tailor the curriculum to the groups attending.

### Declaration

In this section, you will also be asked to declare that:

- The information you have provided is accurate.
- You understand that if you participate in the programme, it is entirely at your own risk. It is the responsibility of all participants and/or their employers to arrange suitable travel insurance *before* participants travel to the UK for the residential programme.
- You understand that it is your responsibility to obtain the necessary visa to travel to the UK.
- That you will allow the Royal Academy of Engineering to share this material with its Fellows, Funder and subcontractors for the purposes of preparing the training for the Leaders in Innovation Programme and reporting.
- Confirm that you have permission from all relevant employers to attend the Fellowship, if selected to participate.
- I confirm that I have the permission of any person or persons I have included contact details for, to share their details with the Royal Academy of Engineering for the purposes of administering this application.

All participants in the programme will join a global network of innovators and technology entrepreneurs, centred around the Royal Academy of Engineering's Enterprise Hub. As part of this network, we will endeavour to maintain contact with all participants in the programme, and may periodically offer further opportunities for international networking and mentoring. We may also contact you for further updates about the progress of your business.

### Contact

If you have any technical queries about the form, please contact [Mahmoda.ali@raeng.org.uk](mailto:Mahmoda.ali@raeng.org.uk).

## Is it ODA?

The following guidance has been developed to provide general guidance on ODA compliance for the Academy's Newton Fund activities.

### **How the Newton Fund relates to the UK's Official Development Assistance**

The Newton Fund forms part of the UK's Official Development Assistance (ODA) commitment which is monitored by the Organisation for Economic Cooperation and Development (OECD).

ODA funded activities focuses on outcomes that promote the long-term sustainable growth of countries on the OECD Development Assistance Committee (DAC) list and is administered with the promotion of the economic development and welfare of developing countries as its main objective. Newton Fund Partner Countries represent a sub-set of this list.

All applications under Leaders in Innovation Programme must be compliant with the ODA guidelines.

### **What activities can be funded under the Newton Fund?**

Within the paper ['Is it ODA?'](#), the OECD defines ODA compliant research activities as follows:

*"Research includes financing by the official sector, whether in the donor country or elsewhere, of research into the problems of developing countries. This may be either (i) undertaken by an agency or institution whose main purpose is to promote the economic growth or welfare of developing countries, or (ii) commissioned or approved, and financed or part-financed, by an official body from a general purpose institution with the specific aim of promoting the economic growth or welfare of developing countries. Research undertaken as part of the formulation of aid programmes in central or local government departments or aid agencies is considered as an administrative cost."*

Some other categories of activity similar to potential Newton Fund activities are also counted as ODA [by OECD](#):

*"Development-oriented social and cultural programmes provide basic facilities or training to enhance the social and cultural development of nationals of developing countries... As well as educational services, they will typically...include finance for the provision of books, periodicals, the creation or operation of libraries, provision of prizes, and the running of seminars, philosophy and humanistic studies, the consolidation of a recipient country's cultural heritage (including archaeological projects)..."*

Any Newton Fund project therefore must make it clear that its primary purpose is to promote the economic development and welfare of developing countries. They should also consider how strengths of UK will be used to address the issue identified.

## Sector & Technology Tags

Choose the most relevant sector from the drop-down list (**in bold**).

Then choose the most relevant tag from the second drop-down menu.

If none of these tags are relevant to your innovation, use the box marked "other"

<b>Civil</b>	<b>Chemical &amp; Process</b>	<b>Environment</b>
Public health & Sanitation	Food technology	Public health & Sanitation
Waste management systems	Air & water pollution	Water resource management
Transport	Biochemical	Ecological engineering/agriculture
Coastal engineering	Drugs & Medical	Environmental impact mitigation
Infrastructure	Agriculture	Agriculture

<b>Energy &amp; Power</b>	<b>Systems &amp; Computing</b>	<b>Mechanical</b>
Transport	Communications and networks	Manufacturing and design
Renewable energy	Robotics & Artificial Intelligence	Aerospace
Energy-saving	Internet of Things	Vehicle & transport
Energy generation & storage	Coding, cryptography & data protection	
	Medical equipment	
	Software	
	Hardware	

<b>Materials</b>	<b>Medical</b>	<b>Biotechnology / Bioengineering</b>
Textile	Medical equipment	Food technology
Polymers	Drugs	Medical equipment
Mining	Diagnosis	Drugs & Medical
Ceramics		Agriculture
Metallurgy		
Structural & building materials		