



Royal Academy
of Engineering

Leaders in Innovation[®]
Fellowships

Advance 2025 Future Planet

Application Guidance Notes

Applications open,
27 August 2024, 12:00PM (BST)

Deadline,
10 October 2024, 4:00PM (BST)

All questions to be sent to
info-lif@lif.raeng.org.uk

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About the Academy

The [Royal Academy of Engineering](#) is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone. In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation, and building global partnerships, and influencing policy and engaging the public. Together we're working to tackle the greatest challenges of our age. By 2025 we will have helped to build a sustainable society and inclusive economy through:

Talent & Diversity

We'll grow talent by training, supporting, mentoring and funding the most talented and creative [researchers](#), innovators and leaders from across the engineering profession – with an aim to help over 7,500 professionals to enhance their leadership skills.

We'll develop skills for the future by identifying the challenges of an ever-changing world and developing the skills and ideas we need to build a resilient and diverse engineering profession. We've set ourselves a target to work with over 500 engineering businesses and organisations to [champion diversity and inclusion in the workplace](#).

Innovation

We'll drive innovation by investing in some of the UK's most creative and exciting engineering ideas and businesses. In partnership with industry, entrepreneurs, and academia, we're on course to support the growth of more than 500 companies through our [Enterprise Hub](#).

We'll [build global partnerships](#) that bring the world's best engineers from industry, entrepreneurship, and academia together to address the greatest global challenges of our age. As a leading voice in engineering and technology, we're working to build networks and partnerships in over 40 countries, across six continents.

Policy & Engagement

We'll influence policy through the [National Engineering Policy Centre](#) – providing independent and expert guidance to government, drawing on the expertise and creativity of over 450,000 engineers. In our 2020-25 strategy we've committed to working with over 1,000 policymakers in the UK and internationally to improve people's lives.

We'll engage the public by opening their eyes to the wonders of engineering and inspiring young people to become the next generation of engineers. Through campaigns like [This is Engineering](#), we're changing perceptions of the profession and by 2025, we'll have helped a million young people – from every background in the UK – to explore a career in engineering.

Introduction to Advance

Advance is a bespoke programme of relationship-building and business growth activities for engineering and tech entrepreneurs who are ready to scale internationally.

The programme supports participants to grow their businesses responsibly and sustainably, develop their leadership and soft skills, and expand their networks into the UK. It achieves this by bringing together a cohort of innovators [from the Leaders in Innovation \(LIF\) Community](#), [Africa Prize for Engineering Innovation \(APEI\) Community](#), and innovators from specific emerging economies across the world providing them with tailored training, mentoring and networking opportunities, both internationally and in the UK.

Objectives

1. Support the best engineering talent to achieve their full commercial potential and equip them to grow and scale their business.
2. Provide a landing opportunity into the UK innovation ecosystem for participants who might wish to establish a business in the UK or partner with relevant UK organisations.
3. Support Advance participants to take on leadership roles in the LIF and APEI Community.

Programme Structure

The Advance programme has three pillars:

Individual pre-diagnostic and needs analysis, and goal setting.

The Advance programme is specific to the needs of the participants, supporting them to overcome the barriers and challenges intrinsic to commercial growth and development. Participants will work closely with their peers, mentors, and trainers to define short- and medium-term goals, and action plans to achieve them.

Cohort formation and streaming.

The emphasis in Advance is on the formation of a strong cohort. While all participants receive individualised support, they will also benefit from relationships and shared experiences with programme peers. The 2025 cohort is aligned with a theme and verticals of global importance. The cohort will work together on business principles and supporting on thematic aims.

Strategic relationship-building support.

Advance participants will be expected to have made significant progress in their business model and product design since their prior participation in Academy's programme if they

belong to the alumni community. The next steps in their commercialisation journey will require advice from and connections with key stakeholders in their industry, including investors, regulatory authorities, manufacturers, and distributors. Advance will provide the tools and opportunities to meet with these key stakeholders in the UK and open the doors them to be able to move forward into the next stages of growth for their business venture.

Application, Timelines and Key Dates.

Applicants must be able to commit to Advance for a minimum of 10 hours during the ‘welcome week’ of the onboarding and beginning of the remote training (early-January), and at least 20 days for training and mentoring between January and July, including a minimum of 13 days for the UK Residential in June-July 2025.

Application Process 2024



Programme Timeline 2024-2025



2024-2025 Programme's Theme.

The Royal Academy of Engineering's Advance programme is open to participants whose innovation leverages technologies to establish the future of the planet for the benefit of society. In addition to supporting participants to achieve their full commercial potential, the Advance programme will also equip participants with the skills and knowledge needed to address the challenges of entrepreneurship and ensure that the benefits they bring can apply to everyone.

Future Planet

The future of our planet is now primarily shaped through human-caused factors such as climate change, geopolitics, and human mass behaviours; all largely the result of systemic failures. These factors create a myriad of challenges in different regions around the world, which, regardless of the geography and socio-economic background of the region, directly affect nature, the way humans use and consume the land, and the way rural and urban infrastructures are being built and powered. Advance is calling for innovators are working to protect, foster and develop solutions to address these fundamental issues regarding the environment, nature, and climate change, creating social impact for the world's population through their innovation. These diverse challenges will require diverse solutions, as the global requirement grows for more infrastructure, more food, better connectivity, cleaner energy sources and a responsible usage of the land. However, increasing production will inevitably have an environmental, social and economic impact. Thus, the solutions must be accessible, affordable, and sustainable.

The Advance 2025 cohort will focus on **biodiversity, energy, food security, and materials**.

The re-design, creation, and management of these four verticals through your innovation require a set of key components that need to be addressed and improved:

- **Biodiversity**¹ Sustaining and conserving life on earth is a priority as the ecosystems are fragile, not solely for humans, but for other species of mammals, birds, amphibians, reptiles, fish, invertebrates, flora, fungi, and micro-organisms that inhabit the world. Human activities have negatively influenced other species and reversing these effects is essential to the future of the ecosystems, thus, sustainable practices and new ways of extracting or creating biodiverse components which avoid environmental degradation are urgent requirements, as is the need for Earth's biological complexity to be restored² and maintained. Your innovation must: conserve or enhance biodiversity, extract biological components in a sustainable way, create a healthier habitat for animals, plants, or any other living species, conserve life on land or water, sustain forests, rivers,

¹ Reference taken from UK Action Plan

<https://assets.publishing.service.gov.uk/media/5a7ced59ed915d2017106d17/2428.pdf>

² Reference Biological complexity taken from springer.com

and wildlife, or protect human livelihoods and wellbeing through fostering more resilient ecosystems.

- **Energy**³ is essential to human activity, such as powering national grids and fuelling transportation. Your innovation must: support a faster transition to clean energy, shape the future of power systems, increase global accessibility to energy, offer new sources of clean energy, develop better materials for energy and batteries, or accelerate the restoration or transformation of the ecosystem.
- **Food Security:** As the world's population exponentially grows, the consumption and optimisation of land use is predicted to (at least) double in the next 25 years⁴. Addressing issues of scarcity, health and wellness, food-chain resilience, sustainable and responsible consumption, and improving the Global Food systems is necessary to sustain human life on earth. Your innovation must be working towards: developing super foods, new sources of protein, new ways to foster/support agricultural land, seed enhancement, optimising the use of land and its resources including food and seed storage and supply chains, organic agrochemicals, or developing consumer products that are both better for humanity, and improve the food systems.
- **Materials:** Sustainable materials are urgently needed to establish a future planet which is free from irreversible environmental damage. Your innovation should be improving the quality of life in both your local and global community through the creation and/or modification of new materials, centring on the usage of micro or nano components, sustainable polymers, plant-based material alternatives, more sustainable metal alloys, products based on a circular economy model, or biomimicry designs.

The foundation of your innovation should be to create systems and fair solutions which give communities access to equitable and sustainable opportunities, regardless of age, ethnicity, gender, educational or personal background, and disability status. Your innovation should offer opportunities to improve, shape, use, harvest, interconnect, and move the future of our planet.

These key components are interconnected by participation, equity, growth, sustainability, and stability⁵.

³ Reference taken from <https://assets.publishing.service.gov.uk/media/626112c0e90e07168e3fdb3/british-energy-security-strategy-web-accessible.pdf>

⁴ Reference taken from <https://press.un.org/en/2009/gaef3242.doc.htm>

⁵ Characteristics introduced by [Rockefeller Foundation](#)

Eligibility Criteria

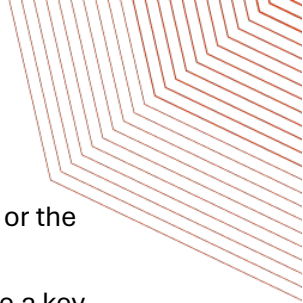
All applicants should:

- **Be working on an innovation that meets the theme.**
- **Be from:**
 - **the LIF alumni community** (*LIF 1-7, LIF Global 22-24*)
 - **the APEI alumni community** (*Cycles 1-10*),
 - Brazil, Colombia, Egypt, India, Indonesia, Jordan, Kenya, Malaysia, Mexico, Peru, Philippines, South Africa, Thailand, Türkiye, Vietnam who are working on technology solutions to the thematic problem.
- **Have progressed the innovation with which they are applying to the programme to at least [TRL Level 7](#).** The innovators must show evidence of a prototype in an operational environment in the application. They should also be able to show initial customer engagement and proof of business concept.
- The applicant's innovation can be any new product, technology, or service, which must address the "Future Planet" theme
- **Have established a business around their innovation.** Applicants will be required to provide evidence of business incorporation in their application. Candidates must be the original innovator and own majority of the shares in the company created.
- The innovation should have the potential to benefit the applicant's country, and global benefit, in terms of improving social welfare and driving economic development.
- The primary application of the innovation must NOT be in the defence, military, security or fossil fuel-based energy sectors.
- **Time commitment:** Applicants must be able to commit to Advance for a minimum of 10 hours during the 'welcome week' of the onboarding and beginning of the remote training (early-January), and at least 20 days for training and mentoring between January and July, including a minimum of 13 days for the UK Residential in June-July 2025. This implies being able to secure availability to attend the programme if selected. The Academy will provide documentation on Advance counting as training or continuous personal development if required once you have joined the cohort. Failure to meet a minimum attendance requirement will result in removal from the UK residential and follow on support.
- Applicants must be able to commit to travel internationally. All costs associated with the Advance programme will be paid for by the Royal Academy of Engineering, **with the exception of visas and travel insurance**. Participants will be asked to purchase a travel insurance covering as a minimum: GP access⁶, medical emergencies, and personal accidents⁷. The Academy will consider covering the costs of any caring needs related to travel on a case-by-case basis⁸.

⁶ Access to a General Practitioner in the UK.

⁷ Coverage if following an accident your injuries lead to death, total loss of sight/limb or permanent disability. An accident must be caused by something external and visible.

⁸ Please contact the Academy if assuming the cost of visas and travel insurance would prevent you from taking part in the Advance programme.

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- Applicants will not need to cover any costs associated with the training programme or the residential phase in the UK.
 - **Candidates will need to demonstrate fluency in English** to participate. This will be a key assessment metric. The application must be written and uploaded in English to avoid being unable to gain a place on the programme. Please note that the residential programme will be conducted entirely in English.
 - Applicants must be committed to **LIF and APEI goals around sustainable development and responsible innovation**.
 - **Applicants must be aligned to the Academy values**, progressive leadership, diversity and inclusion, excellence everywhere, collaboration first, and creativity and innovation.
 - Applicants must be **interested in exploring partnership, funding, or other development opportunities in the UK innovation ecosystem**, or establishing their business in the UK.

Monitoring

Before the beginning of the programme, the participants must submit a form to create a baseline that support their journey throughout the programme, it covers subjects such as your knowledge of the contents of the programme, mentoring and advising. At the end of the programme, applicants will be contacted to monitor the stage of their start-up after the training, each awardee should share their growth, company progress, and awards. A report will be created comparing the baseline and the post-programme growth, and the impact of the programme on the awardee.

We regularly report back to our funders on the progress of the programme. Awardees will not be required to submit information they consider confidential or sensitive to the business. All information is aggregated for monitoring of KPIs; individual data is not identifiable unless featured in, for example, an agreed-upon case study.

The report will be created by the delivery partner. Awardees should be prepared to speak with the evaluators regarding the support they've received and the impact it has had on their own skills and on their business.

Applications Assessment

The process summary is as follows:

All applications will be reviewed first by the Academy team, checking for eligibility criteria solely. Then, an external evaluation pool of reviewers will assess the applications based on their suitability for the programme, their alignment with Academy values and the UK ecosystem of innovation. Finally, a Selection Panel, which includes Fellows of the Academy with entrepreneurial and industrial experience, and representatives from the local ecosystem community will select the definitive cohort. Any external reviewer we ask to assist has declared any conflict of interest prior to seeing applications and has agreed to keep all application information confidential. They may not all have technical expertise in your engineering discipline, so you should ensure the application is understandable to a non-specialist reader.

Diversity Statement

The Royal Academy of Engineering is committed to diversity and inclusion and welcomes applications from all under-represented groups across engineering.

It is [the Academy's policy](#) to ensure that no applicant is disadvantaged or receives less favourable treatment because of:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership
- Pregnancy and maternity
- Race
- Religion or belief
- Gender and sexual orientation

The Advance programme welcomes applications from everyone in APEI and LIF alumni communities who meets the eligibility criteria and non-alumni from eligible countries, and particularly encourages women to apply.

Artificial Intelligence (AI) Guidelines

Applicants must:

1. **Take responsibility for content:** Applicants are fully responsible for all the content presented in their grant applications. The grant process does not penalise the use of generative AI tools, but it is imperative to ensure that the application reflects the applicant's own voice and ideas. For applicants whose first language is not English, machine translation may be used, but care should still be taken to ensure the accuracy of this translation, especially for technical vocabulary.
2. **Have a rigorous approach:** Applicants should exercise caution when using generative AI tools to avoid the inclusion of 'hallucinated' references or factual errors. These often become more common when up to date content on a very specific topic is required, which is typical for most of our application areas. Such inaccuracies will be perceived as indications of a lack of rigor and will negatively impact the assessment of the application.
3. **Avoid partial use of AI tools:** It is not acceptable to solely rely on generative AI tools to write the entire grant application from start to finish. While these tools may be used to assist in various aspects, the application must primarily represent the applicant's own work.
4. **Consider it plagiarism:** Applicants should be aware that the output generated by some AI tools may utilize ideas from other human authors without proper referencing. As this is considered a form of plagiarism, it is essential to ensure that all sources are appropriately attributed.
5. **Acknowledge properly usage of AI tools:** Applicants must provide clear acknowledgement if they have used generative AI tools in the process of writing their grant applications. This includes disclosing the name of the tool used and describing how it was utilized. The following style should be employed for referencing:

I acknowledge the use of [insert AI system(s), version number and link] to generate materials for background research, styling, proofreading, etc.

I acknowledge the use of [insert AI system(s), version number and link] to generate materials that were included within my final assessment in modified form.

6. **Disclose it within GMS:** Explicit statements that the ideas presented are the applicant's own and not plagiarised or containing intellectual property they do not have rights to use, and that all contributions have been appropriately referenced or credited including the use of any machine intelligence tools used in developing the application. An inaccurate declaration will be grounds for immediate rejection of the application and potentially exclusion of the applicant and their organisation from future opportunities.

How to Apply

All applications must be submitted via the online Grant Management System (GMS), available here: <https://grants.raeng.org.uk/>

You must register through the system before you can apply. If you applied to the APEI or LIF programme through GMS before, you may already have a GMS account. Please use your existing GMS account if possible or follow the instructions on the [Login Page](#) if you cannot remember your username or password from previous application cycles.

The application form has six sections and will take approximately 1 – 1.5 hours to complete on GMS. More time will be required to gather relevant supporting documentation and prepare answers offline.

After logging in to GMS, please select **LIF Advance 2025**. This will take you to the ‘Instructions’ screen.

On the Instructions screen, you will see some general instructions on how to use the system as well as the six sections of the application form.

1. Personal details
2. Time Availability
3. Innovation
4. Business
5. Advance
6. Statements and declaration
7. Marketing

Don't forget to save your work!

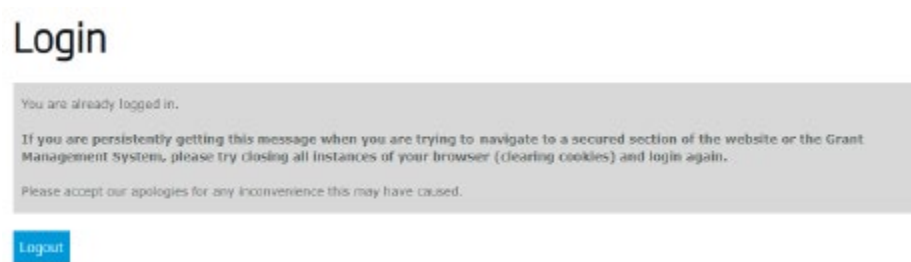
At any stage in the process, you can save your work and return to it later. The system will automatically save your work when you change pages, but we recommend that you also save your work manually to avoid loss of data.

You can answer the questions in any order, so you may skip sections and return to them later if you wish. You may prefer to compose your answers offline and copy and paste them into the form.

To submit your application, all sections and all required questions must be completed. Once you have completed all sections and required questions, a 'Submit Application' button will become available at the bottom of the summary page.

Troubleshooting

If you try logging in and GMS displays the message below, please try clearing your cookies and browser history, closing the window, and opening the page again in a new window.



Alternatively, you can try using a different browser or opening your application in an incognito window.

If you are still having issues after trying the above steps to resolve the problem, please contact the LIF team at info-lif@lif.raeng.org.uk esteban.jaramillo@raeng.org.uk or the APEI team at africapriz@raeng.org.uk

Terms and Conditions

This section sets out the terms and conditions under which the Advance programme is being offered. Please ensure you fully understand the eligibility criteria and have read this document in full before applying.

General

The Advance programme is run by the Royal Academy of Engineering. The Academy is not-for-profit entity and takes no stake in any business or innovation accepted onto the programme.

The Selection Panel will be convened by the Academy solely for the purpose of selecting participants for the Advance programme and will make the final decision.

There is no cash award available for any participants on the Advance programme.

Applications

By applying for the programme, applicants will be deemed to have accepted and agreed to be bound by these Terms and Conditions.

Any applications that are incomplete, late, do not adhere to the guidelines or contain false information will be rejected.

By applying to be considered for selection on to the programme, applicants warrant that all information submitted is true, current, and complete. The Selection Panel reserves the right to verify the eligibility of all entrants and the veracity of all statements made.

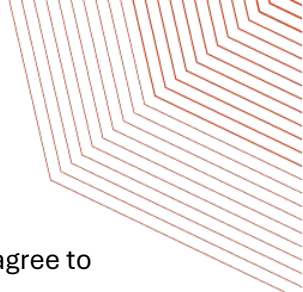
Publicity and further activities

All Advance participants will be expected to participate in promotional activities where appropriate.

Liability

Protection of any intellectual property rights in any content submitted is the sole responsibility of the owner of such rights. The Academy recommends that no application is made before the protection of any such rights has been considered. All applications are made at the applicant's own risk and the applicant agrees to release the Selection Panel, the Academy, its employees, and all other connected persons from any liability relating to infringement (whether actual or threatened) of any such rights by a third party anywhere in the world.

The applicant is solely responsible for the content of their application.



In submitting an application to be considered for the Advance programme, applicants agree to fully indemnify the Selection Panel, the Academy, its employees and all other connected persons in respect of all actions, claims, costs, damages, demands, expenses, fines, liabilities, losses, penalties, sanctions, amounts paid in settlement, out of pocket expenses, interest, penalties, and all legal and other professional costs and expenses that may be incurred by any of them in respect of any claims that the nomination and the content that it contains infringes the proprietary rights of a third party.

Data protection

The Academy will hold all personal data in confidence and will not release it to any third parties without consent, except to those involved in the delivery, audit, review, and evaluation of the LIF Global, APEI, and Advance programmes.

Annex A. Application Questions

1. Personal Details

This section asks for your details, such as your name, contact details and LIF or APEI year.

	Question	Information
1.1	Preferred Name*	Please give your preferred first name(s) and surname(s). Please include any titles you want to appear and ensure it is spelt correctly. For Example: Dr Michaela Jones
1.2	Contact details*	Please enter your most up-to-date contact email. Any communications about and during the Advance programme will be sent to the email address provided here.
1.3	Which country are you from? *	Please select your country from the drop-down list.
1.3a	In which city are you based?	Please state in which cities you reside more than 6 months a year and your business mainly operates.
1.4	Which year of LIF or APEI did you participate in? *	<p>Please select the year of LIF or APEI that you participated in.</p> <ul style="list-style-type: none"> LIF1: 2014/15 – APEI Cycle 1 [2014 - 2015] LIF2: 2015/16 – APEI Cycle 2 [2015 - 2016] LIF3: 2016/17 – APEI Cycle 3 [2016 - 2017] LIF4: 2017/18 – APEI Cycle 4 [2017 - 2018] LIF5: 2018/19 – APEI Cycle 5 [2018 - 2019] LIF6: 2019/20 – APEI Cycle 6 [2019 - 2020] LIF7: 2020/21 – APEI Cycle 7 [2020 - 2021] LIF Global: 2022 – APEI Cycle 8 [2021 - 2022] LIF Global: 2023 – APEI Cycle 9 [2022 - 2023] LIF Global: 2024 – APEI Cycle 10 [2023 - 2024] If you have participated in both, please choose "I have participated in both". You will be asked to state which years you participated. If you are not an alumnus. Select the option "I am not alumni from LIF or APEI"
1.5	English skills *	<p>Please indicate by skill your current English level: beginner, intermediate, advanced, or fluent/proficient. link for some guidance on language levels: English proficiency Levels</p> <ul style="list-style-type: none"> Speaking Reading Writing General Understanding <p>Based on the answer provided about your English proficiency you might be not eligible to participate in the programme. If you have English proof of proficiency, please upload it. Not uploading will not affect your application</p>

	Questionnaire	Information
1.6	Do you have a valid international passport for travelling abroad with one year validity remaining? *	Please note that you will need at least one year validity on your passport to enter the UK in July 2024.
1.7	Would you require any special assistance during in person or remote training due to a health condition or disability? *	This question will not impact the outcome of your application; its purpose is to allow the LIF team to make adjustments when needed. Please detail the nature of your condition or disability if applicable. If not applicable, please leave this field empty.

Questions with an asterisk (*) next to them are required and must be completed.

2. Other Programmes

On this section, you will share with us the details of other accelerator programmes you have or that you are currently applying to. As well as acknowledging the time availability for Advance 2025.

	Question	Information
2.1.	Have you participated in accelerator programmes before? *	Please list your answer and provide details where, when, and in which organization did you participate. Do not list other programmes at the Royal Academy of Engineering.
2.2.	Are you applying to other accelerator programmes happening in between January and July 2025? *	Please list your answer and provide details where, when, and which organization runs the programme you are applying to.
2.3.	Please acknowledge that you have the time to participate in Advance 2025. *	The programme will run from January to July 2025.

3. Your Innovation

In this section, please provide the key details on your innovation and the technology behind it.

	Question	Information
3.1	Innovation title*	Please provide the title of your innovation.
3.2	Business name*	Please give the name of your business or company.
3.3	Current team details*	Please list your details and those of any other key team members who are currently working with you on your innovation. If you are applying as an individual, please complete your own details here.
3.4	If you are an alumnus is this the same business/innovation with which you originally came to the LIF/APEI programme? *	If you are working on a different innovation to the one you brought to the LIF/APEI programme originally, you will be asked to briefly describe why you decided to change projects.
3.4.a	Please explain any pivots you have made in your product/business model since your original LIF/APEI programme*	If you are working on a different innovation to the one you brought to LIF or APEI originally, you will be asked to briefly describe why you decided to change projects. If you have not participated in LIF or APEI before, please answer "Never been involved with either". You will be asked to state if you have applied before to either or both
3.5	Do you have a full or part-time job outside of your innovation? *	Please state what is/are the other job(s), position, and provide your time availability
3.6	One-line pitch *	Please provide a one-line pitch for your business. Use the following questions as a prompt: what is it, who is it for and how will it change the world?
3.7	Which of the subjects within the ' Future Planet ' theme are you addressing?	Please select as many as apply. Biodiversity, Energy, Food Security, and New Materials.
3.8	What problem does your innovation address related to the 'Future Planet' theme? *	Please justify and describe how your innovation is addressing an issue within the theme. You can describe the problem in any way you like, but you may want to address the following questions: <ul style="list-style-type: none"> • How it matches the theme(s)? • What is the scale of this problem? • How urgent is this problem? • Who is experiencing this problem?
3.9	Innovation Summary *	Please describe your innovation. How does it solve the problem you outlined in the previous question? What are the benefits of your innovation, and for whom?