



Innovate
UK

Net Zero Heat: Design Engineering Innovation Lab

Applicant briefing

Date: 20 April 2023

The webinar will start at 10:00

- We are currently on mute, whilst waiting for more people to join
- The briefing will be recorded and available to refer to through the IFS date page
- For more information on the competition process, please go to: [Competition briefing: applicant information - YouTube](#)

Welcome and Introductions

Mike Moseley -

Knowledge Transfer Manager, Innovate UK KTN

Sarah Hunt -

Portfolio Manager, Competitions Team

Mat Colmer -

Senior Innovation Lead, Construction & Net
Zero Heat



Innovate UK

- We are the UK's innovation agency
- We support business-led innovation in all sectors, technologies and UK regions
- A key delivery body of the Government's Innovation Strategy

Our Mission

To help UK businesses grow through the development and commercialisation of new products, processes, and services, supported by an outstanding innovation ecosystem that is agile, inclusive, and easy to navigate.



Scope



Innovate
UK

Net Zero Heat - the challenge

Heat in buildings accounts for 23% of UK emissions. The UK must move away from gas as a source of heating space and water in buildings to meet its net zero commitments

Energy demand

Heat decarbonised for:

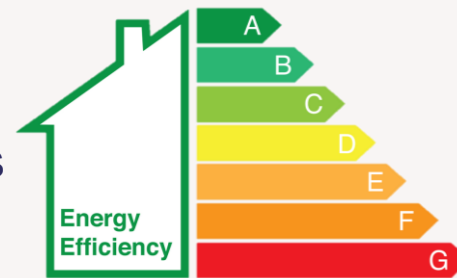
- 28.6m homes
- 1.9m non-residential buildings

£58 - £200bn investment
Economic net benefit to the renovation sector **10x**

Homes to be minimum **EPC C** by **2035**

Commercial buildings to be minimum of **EPC B** by **2030**

75% reduction in public sector building emissions by **2037**



Heating vectors

No new gas boilers from **2035**

Heat pumps **50% cheaper** by **2025**



600k heat pumps installed each year by **2028**

Net Zero Heat - the benefits

Benefits of net zero heat and power in buildings



~100MtCO₂e pa avoided (heat)

£500bn GDP



Increase national energy security

Lower energy bills



More choice and control

Healthier buildings



200k+ new jobs

Reduce national energy costs £7.5bn pa



Reduce fuel poverty

Lower healthcare costs



New business models

Increased market value

Delivered through...

Market demand

*standardised information
on what renovation to do
where and when for
maximum impact*

System barriers

*to bridge scaling gap
leading to growth in
supply chains and
localised deployment*

Design engineering

*to reduce capital and
installation cost across the
system of net zero
renovation*

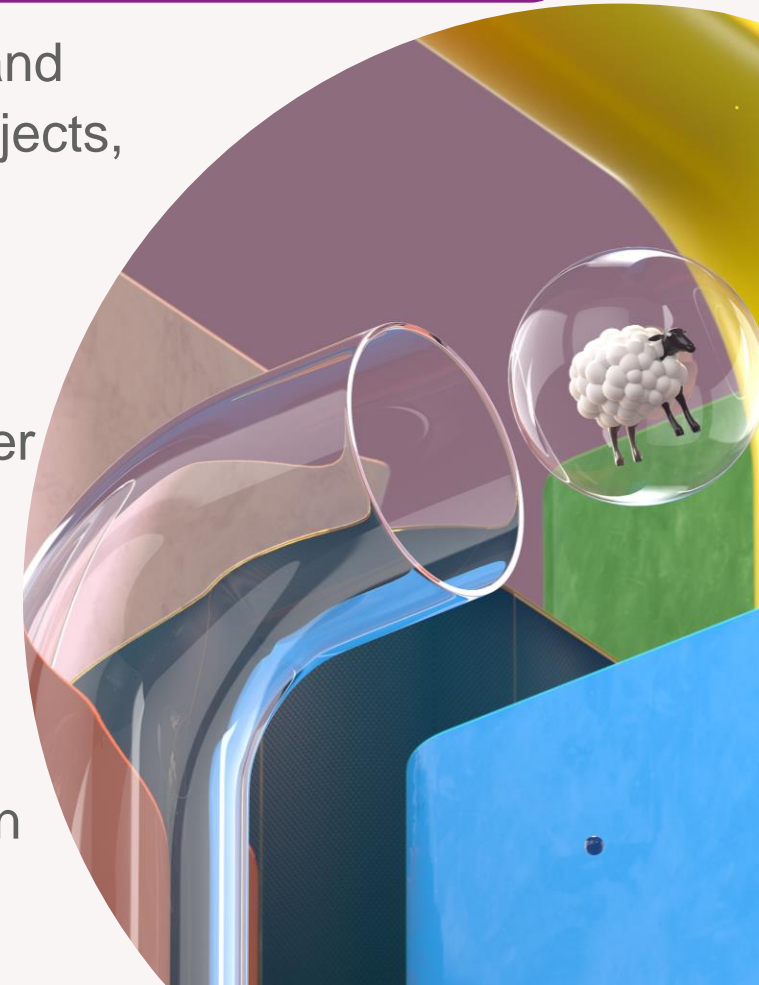


Innovate
UK

Net Zero Heat: Design Engineering Innovation Lab

Aims to make the building renovation delivery process more efficient, effective and lower cost

- An Innovation Lab - also referred to as a sandpit - is about creating and undertaking innovative, collaborative, research and development projects, face-to-face
It is widely recognised as a way to foster innovation and creativity in research design
- Net Zero Heat's Design Engineering Innovation Lab will bring together cross-sector organisations to reduce capital and installation costs across the whole system of net zero renovation - fabric and decarbonised heat technology; including installation
- Particular focus of this Innovation Lab is ensuring Net Zero aims are met through a just transition, ensuring equality, diversity and inclusion is embedded in all approaches to net zero heat in buildings



Net Zero Heat: Design Engineering Innovation Lab



Aims to make the building renovation delivery process more efficient, effective and lower cost

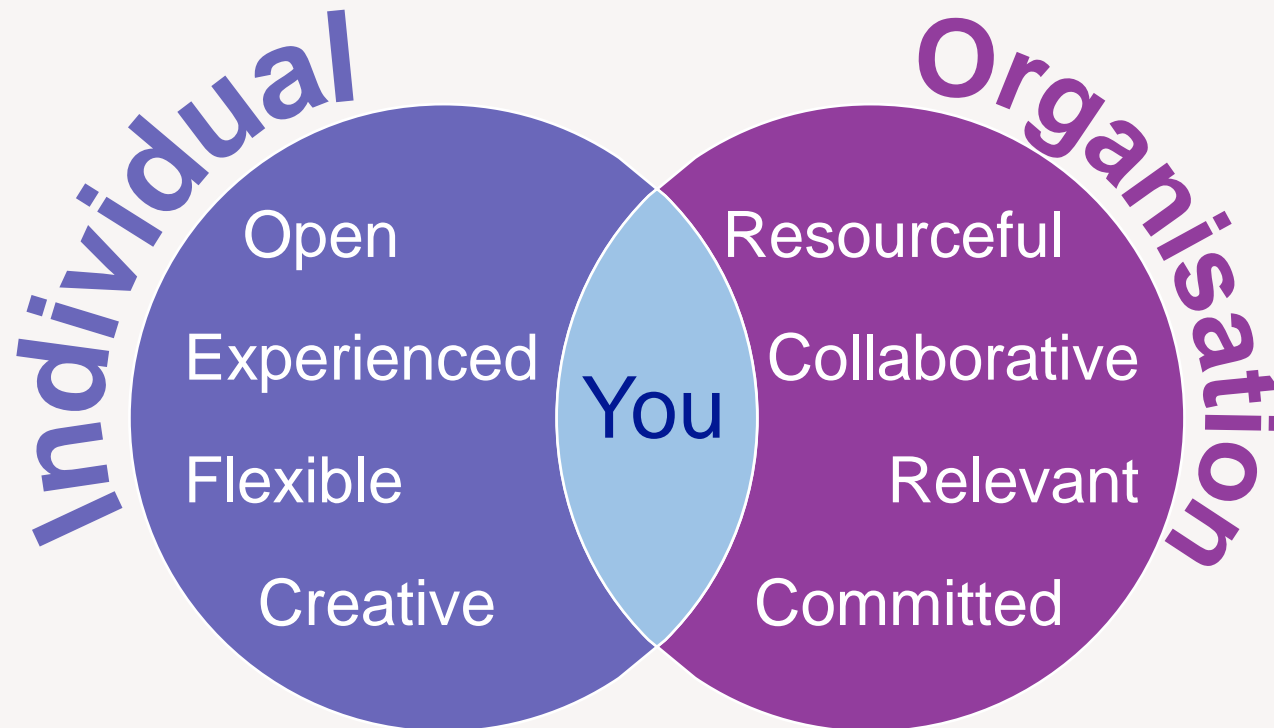
The Net Zero Heat Innovation Lab competition is split into 3 stages:

- **Stage 1:** Expression of Interest in attending the Innovation Lab (this EoI stage)
- **Stage 2:** Participation in all 5 days of the Innovation Lab (18th to 22nd September 2023)
- **Stage 3:** Selected projects developed at the Innovation Lab will be invited to apply for funding (25th September to 25th October 2023)

We have allocated £8.5m to be shared amongst successful stage 3 projects

Stage 1: Expression of Interest

This competition requires the perfect mix of the right **individuals** and the right **organisations**



Stage 1: Expression of Interest

Individuals

Applications to attend the Innovation Lab will be considered by a selection panel. In question responses we will look for evidence that individuals:

- have an open, engaging, flexible, imaginative and creative outlook
- have the ability to develop new and highly original innovative ideas
- have the ability to work constructively with people of diverse disciplines
- have the stamina and enthusiasm needed to work with strangers intensively over 5 days away from home
- work in practical delivery of projects rather than in a financial, procurement or business support role (more on this next)
- **have the authority and backing of the organisation you represent to provisionally agree to working on a stage 3 project**

Stage 1: Expression of Interest

Individuals

At stage 1 potential attendees must show one or more of the following:

- demonstratable experience, interest, involvement, thinking and preparation on net zero renovation and design and systems engineering
- experience of developing and pitching project ideas
- understanding of sector industrialisation to reduce cost through collaborative design and system engineering
- understanding of how people interact with buildings in, their life and work environment, particularly those in vulnerable or marginalised groups

We will use the criteria above to achieve a diverse range of representation at the Innovation Lab. This is known as a portfolio approach

Stage 1: Expression of Interest

Organisations

We are seeking a range of organisations to bring a diversity of knowledge. Not all will be typically associated with the heating or building renovation sectors

Organisations can include, but are not limited to, those active in:

- user-centred design, consumer and sector finance, housing and energy policy, urban planning, justice and equality, law and regulations
- providers of social services and facilities, third sector organisations working with vulnerable people, skills and training providers, owners of portfolios of buildings
- automotive, robotics, manufacturing, machine learning and artificial intelligence, remote sensing and computer vision
- net zero technology and solution providers, construction professionals, building performance evaluation professionals
- agencies of relevance to making an important contribution to the net-zero mission

We will use the criteria above to achieve a diverse range of representation at the Innovation Lab. This is known as a portfolio approach

Stage 1: EoI - what we will ask about you

- Your background
- About the organisation you work for
- Your subject knowledge: how do you see the decarbonisation of heat in buildings being achieved?
- Your expertise and interests
- Your approach to teamwork (i.e. why do you consider yourself suited to participate in the Lab)
- Your communication skills: by explaining your professional area of interest in a way that anyone could understand
- Your view on how the Innovation lab will support the development of proposals for net zero heat in buildings
- What you and your organisation hope to gain from taking part in the Innovation Lab
 - a statement of the resources your organisation may be willing to commit to a successful project (could be buildings, testing facilities, user groups)
 - proof that your participation is supported by your organisation

Stage 1: Expression of Interest

- Up to 40 individuals from different organisations will be invited to attend the 5 day Innovation Lab
- An organisation can submit any number of EoI applications for individuals however....
- If multiple individuals from the same organisation apply, we expect to invite only one individual from that organisation to participate in the stage 2 Innovation Lab
- After question responses have been taken into consideration, preference will be given to those working on practical delivery of projects and solutions, rather than those with a finance or business development role
- Individuals selected to participate who subsequently are unable to attend cannot substitute someone else in their place
Innovate UK will select an alternate from the pool of applicants

Stage 1: Expression of Interest

- We recognise that not all necessary stakeholder groups will be able to attend the Lab
- We will be opening an opportunity to be included in an Innovation Lab “directory”
- Requests to be included will be reviewed every 2 weeks
- There is no guarantee that organisations in the directory will be contacted or included during the Innovation Lab
Organisations do not need to be in the directory to be contacted as part of the Lab process
- Only individuals / organisations selected through the formal stage 1 EoI will attend the Lab in person



<https://iuk.ktn-uk.org/events/net-zero-heat-innovation-lab-competition-briefing/>

Stage 2: Innovation Lab

- 18th to 22nd September, 2023
- The Welcombe Hotel, Stratford-Upon-Avon
- Innovate UK cover venue costs, rooms and meals
 - attendees must cover travel to and from the venue on the first and last days, any rooms required prior to the Lab dates and expenses incurred as part of the Lab
 - every effort will be made to accommodate special requirements

Stage 2: Innovation Lab - themes

Project proposals developed at the Innovation Lab **must centre** on the following:

- a just transition, ensuring equality, diversity and inclusion is embedded in all approaches to net zero heat in buildings
- delivery of substantial upgrading of building portfolios
- targeting decarbonisation of the whole system
- delivery of approaches at scale
- solutions demonstrated on real developments

Stage 2: Innovation Lab - themes

Project proposals developed at the Innovation Lab can also focus on the following:

- delivery of energy demand reduction
- delivery of market demand certainty
- delivery of heat efficiency
- delivery of cost reductions for systemised deep renovation
- building upgrades for heat demand reduction that are faster to do and easier to initiate (through using data, automation, AI etc.)
- utilise modular in design with common interfaces and open architectures, and follow all appropriate industrial standards and system engineering principles

Stage 2: Innovation Lab - what happens?

- Discussion groups will form in the first two days, with collaborative groups commencing intensive project development from mid-week
- Project pitches will happen on Friday 22nd to a panel. This will be run as an assessment process
- The Lab is closed to additional attendees not selected through this EoI
However external contact with others during ideation is encouraged
- The Innovation Lab will be professionally facilitated
- Speakers, mentors and experts will inform and inspire. Innovate UK will be involved throughout
- There will be an online orientation session prior to the Lab for all those selected to attend (date TBC)



Stage 2: Innovation Lab - what happens?

The project pitch will describe proposed ideas and how they innovatively address the aim of the Innovation Lab

The pitch will also need to:

- quantify how the solution can be commercialised
- explain how it will include testing and demonstration in realistic scenarios or environments
- address regulatory or safety issues and constraints
- demonstrate organisational buy-in from consortia members

£8.5m has been allocated for this competition

We expect projects to have grant funding requests of between £1.5m and £5m

Projects must start by 01st February 2024 and complete by March 31st 2025

A hand holding a sign that says "PITCH". The sign is dark grey with the word "PITCH" in white, bold, uppercase letters. The background is yellow with a sunburst pattern of dashed lines. The hand is holding the sign from the bottom right.

PITCH

Stage 3: Invitation to apply for funding

- Project ideas from the Innovation Lab are required to go through a formal application process in the form of a closed competition
- The Innovation Funding Service will open on Monday 25th September for 4 weeks
- Projects ideas should be refined based on feedback from the Innovation Lab and further discussion with consortia members
- Only individuals/ organisations involved/ named in the Innovation Lab pitch can be included in the final proposal, unless agreed with Innovate UK
- Projects must start by 01st February 2024 and complete by March 31st 2025

Out of scope

We will not invite Innovation Lab proposals for stage 3 projects that:

- are solely focused on solutions for new buildings
- encourage the continued use of fossil fuel technology
- advocate using hydrogen for domestic heating
- are unable to achieve a successful consortium at the Innovation Lab

Scope Q&A



Innovate
UK

Eligibility criteria



Eligibility criteria

Project eligibility

To participate in this Expression of Interest (Eoi) you must be:

- part of a UK registered business of any size, academic institution, a research and technology organisation (RTO), charity, not for profit organisation or public sector organisation
- able to commit to attending all 5 days on a residential basis at the nominated UK location
- able to show you can work collaboratively and have the relevant skills, expertise and experience to represent your organisation
- able to demonstrate you have the authorisation from your organisation to undertake a project that relates to the scope of this competition
- able to demonstrate the resources and financial support your organisation will commit

Previously submitted applications

Previously submitted application	Not a previously submitted application
Not materially different from one you have submitted before (but it can be updated based on the assessors' feedback)	<p>A brand-new application, project or idea that you have not previously submitted into an Innovate UK competition</p> <p>OR</p> <p>A previously submitted or ineligible application which:</p> <ul style="list-style-type: none">• has been updated based on assessor feedback• <u>and</u> is materially different from the application submitted before• <u>and</u> fits with the scope of this competition

Application Questions

Question	Title	Appendix
1	Applicant location (not scored)	No
2	Commitment (not scored)	No
3	Themes (not scored)	No
4	Your background	No
5	Your organisation	No
6	Subject knowledge	No
7	Expertise and interests	No
8	Teamwork	No
9	Communication skills	No
10	Innovation Lab	No
11	Benefits to you and your organisation	Yes - Mandatory

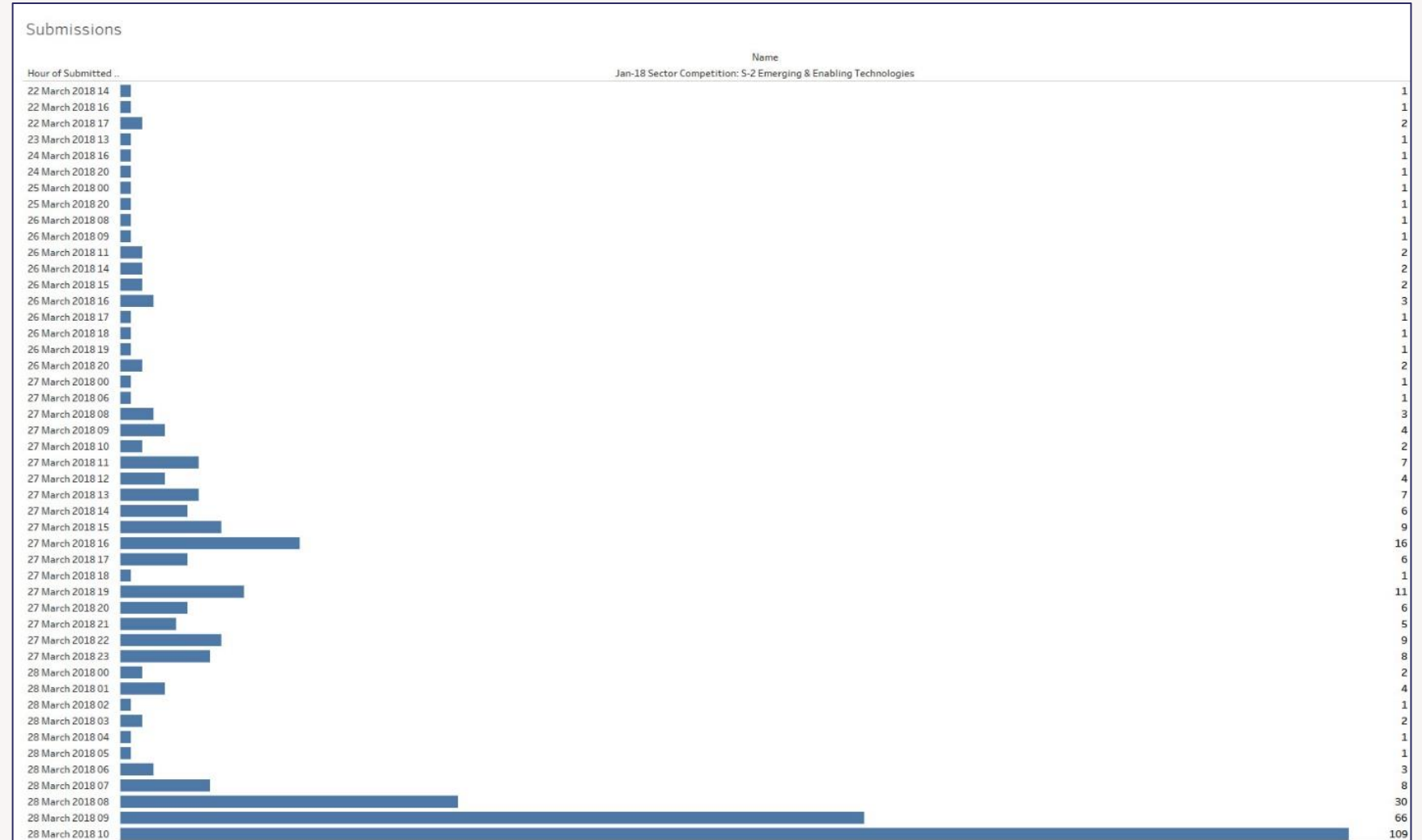
Key Dates

Timeline	Dates
Competition Opens	19 April 2023
Briefing Event	20 April 2023
Submission Deadline (11am)	31 May 2023
Applicants informed	10 July 2023

Submit your application early!

Customer Support can help resolve any issues you might have when submitting but only if they are contacted before the deadline.

Once the deadline has passed, your application cannot be submitted.



Additional Support



Equality, Diversity & Inclusion

- We are on a mission to embed Equality, Diversity, and Inclusion in everything we do, internally and externally.
- We believe that great ideas can, and do, come from anyone and everyone.
- We know that diversity and inclusion in businesses contributes to enhanced innovation, satisfaction, performance, and ultimately, commercial success.
- So, if you would like any support, please contact our Customer Support Service Team on support@iuk.ukri.org or at **0300 321 4357**.



What to Expect

1.

Contact our Customer Support Services Team as early as possible – we suggest at least 15 working days before the deadline

2.

Complete a request form which will be sent to our partner Diversity & Ability (D&A)

3.

D&A will conduct a Discovery Conversation with you and make reasonable adjustments recommendations

4.

D&A will organise and deliver bespoke reasonable adjustments for and with you

5.

Submit your application – please do so well ahead of the deadline as extensions cannot be provided

Innovate UK EDGE

An innovation and growth specialist, or scaleup directors, work with a company's leadership to hone its commercial strategy and help it take targeted action to, for example:

- Build investment readiness
- Manage innovation effectively
- Enter global markets
- Providing local to national to international growth and scaling support



Contact us via:
innovateukedge.ukri.org

Innovate UK EDGE

Bespoke growth and scaling support at the business end of innovation

- Intensive growth and scaling support tailored to the needs of each of our ambitious innovation-driven clients
- Offered alongside project funding to Innovate UK award winners, most of whom engage us. We are also available to all high growth potential innovative small or medium-sized businesses*
- Engagement at early, growth and scaling stages, with our core high growth service and enhanced Scaleup Programme
- Delivered by 290 innovation and growth specialists embedded in regional ecosystems across the UK, including a board of expert scaleup directors

**subject to eligibility and currently in all nations and regions outside Scotland*

Innovate UK KTN

Competition Help & support

www.ktn-uk.org



Innovate UK
KTN

**We
connect**

Diverse communities | Innovation Networks

Regional, national and global | Global Alliance

Research and business | Knowledge Transfer Partnerships

Innovators, funders & collaborators | Innovation Exchange

Insight to impact | Insight reports

...for positive change





We connect **innovators, funders and collaborators** to transform ideas into solutions

- KTN's connections can help you find **collaborative partners**.
- <https://iuk.ktn-uk.org/events/net-zero-heat-innovation-lab-competition-briefing/>

Mike.Moseley@iuk.ktn-uk.org

Q&A



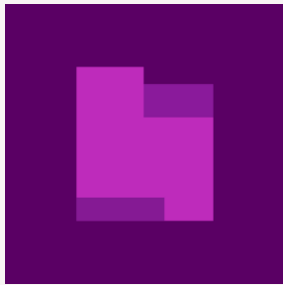
Innovate
UK

Contact

Customer Support Services

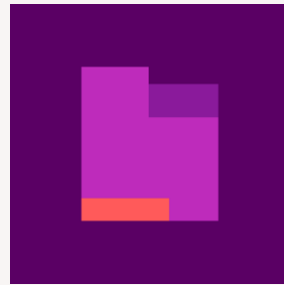
0300 321 4357 (Monday - Friday 9-5pm)

support@iuk.ukri.org



Innovate UK

ukri.org/councils/innovate-uk



Innovate UK KTN

ktn-uk.co.uk



Innovate UK EDGE

innovateukedge.ukri.org

Thank You

 @InnovateUK

 Innovate UK

 Innovate UK

 @weareinnovateuk