Innovate UK

Centre for Connected & Autonomous Vehicles

Commercialising Connected and Automated Mobility: Mass Transit 2

Competition Briefing Event
26 May 2023

Innovate UK KTN

HOUSEKEEPING

- Introduce yourselves using the chat box, network virtually.
- You will be muted during the event so please use the **Q&A box to ask questions to our speakers**
- The event is being recorded and you will be sent a link to the recording and slides after the event to share with colleagues.
- Subtitles are available, you can enable these under “Live Transcript”
- For any technical issues, please contact Olivia Brown in the chat

Innovate UK
KTN

About KTN

Innovate UK KTN (IUK KTN) exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.

Positive Change	Deep Expertise	Powerful Connections	Future Shaping

Anthony Gallego, Automated Mobility KTM
https://iuk.ktn-uk.org/connect/

UKRI Innovate UK KTN

Centre for Connected
& Autonomous Vehicles

Centre for Connected
& Autonomous Vehicles

Commercialising connected and automated mobility

Mass transit feasibility studies

June 23

Who is CCAV

Centre for Connected & Autonomous Vehicles

- A joint unit of the Department for Business and Trade and the Department for Transport, established in 2015.
- An expert policy unit working with industry and academia to make everyday journeys safer, greener, more efficient and more inclusive, by shaping the safe and secure emergence of connected and self-driving vehicles.

Department for Business & Trade

Department for Transport

- CCAV is leading UK's connected and self-driving vehicle innovation and has enabled over £600 million joint public and private investment since 2015, in over 100 R&D projects, involving more than 200 companies and universities.
- This includes the £100 million of public funding that has recently been made available to support the commercial deployment and safety and security of connected and self-driving vehicles.

Policy direction

Centre for Connected & Autonomous Vehicles

"By 2025, the UK will begin to see deployments of self-driving vehicles, improving ways in which people and goods are moved around the nation and creating an early commercial market for the technologies.

This market will be enabled by a comprehensive regulatory, legislative and safety framework, served by a strong British supply chain and skills base, and used confidently by businesses and the public alike."

CCAV, August 2022

- UK government has committed £100 million of new R&D funding:
- £66m in the Department for Business and Trade to support commercial deployment of connected and self-driving technologies
- £34m in the Department for Transport (DfT) for supporting the creation of a safety assurance framework

https://www.gov.uk/government/publications/connected-and-automated-mobility-2025-realising-the-benefits-of-self-driving-vehicles

Work to date

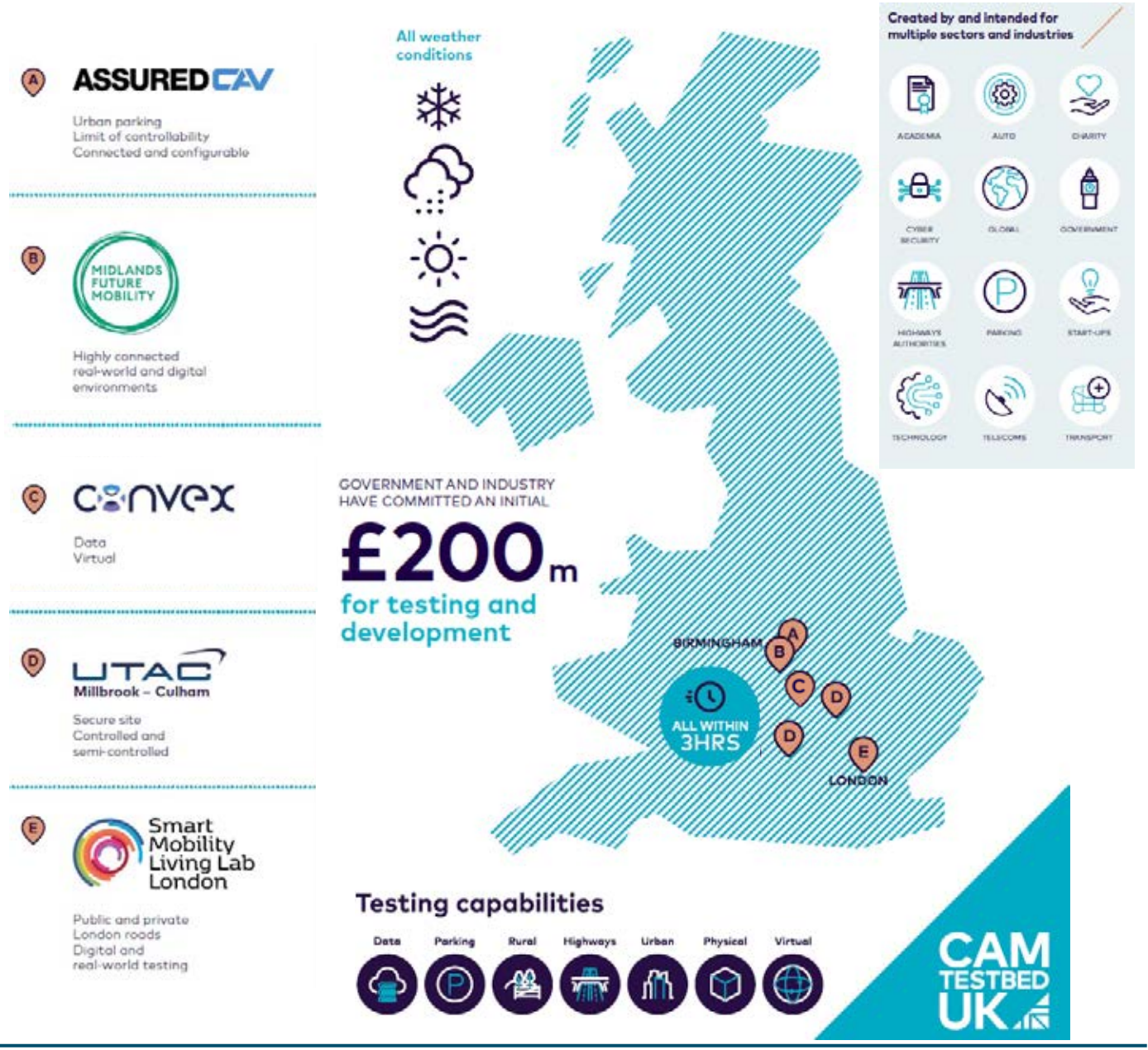
- **Regulatory pathway**
  - Automated and Electric Vehicles Act
  - Law Commissions regulatory review
  - Safety & security assurance process
  - Code of Practice: AV trialling
- **R&D investment**
  - > £600 million investment
  - > 100 collaborative R&D projects
  - > 200 Organisations
- **Testbed ecosystem**
  - £200m investment into testing and development capabilities
  - CAM Testbed UK & ZENZIC

ZENZIC SELF-DRIVING REVOLUTION

CAM TESTBED UK

CAM Testbed UK

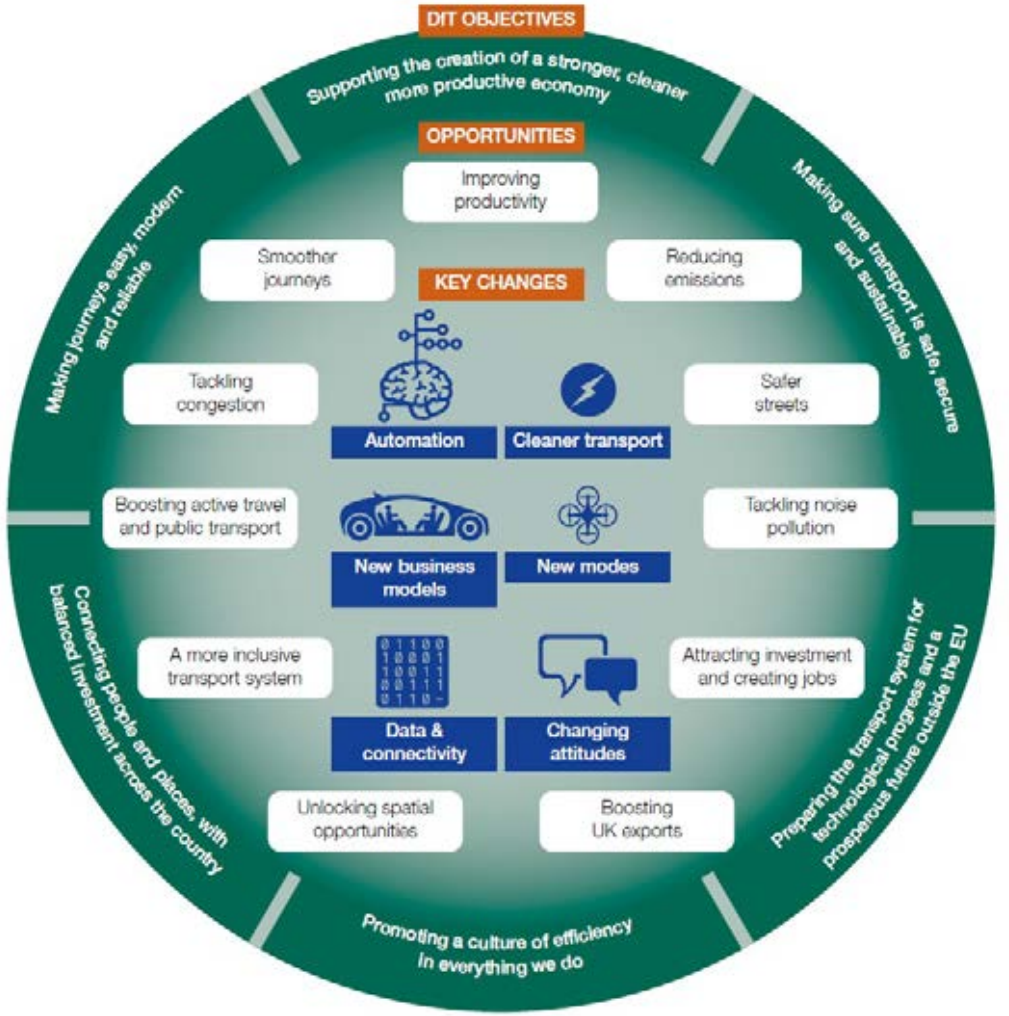
- The UK aims to lead the global transport revolution – take advantage of a complete testing network in the best place globally to support connected and automated (CAM) technology development.
- With five core facilities, CAM Testbed UK offers a unique set of environments and capabilities for the **testing and development** of connected and automated vehicle technologies and services.
- It is the **only place worldwide** with the capability to take ideas from **concept to deployment** both virtually and physically, all within a 3-hour drive.
- Co-ordinated by Zenzic, The UK's comprehensive and integrated facilities are world-leading, with a unique ability to cross-share data and a collaborative way of working.



Why this focus and why now

Centre for Connected & Autonomous Vehicles

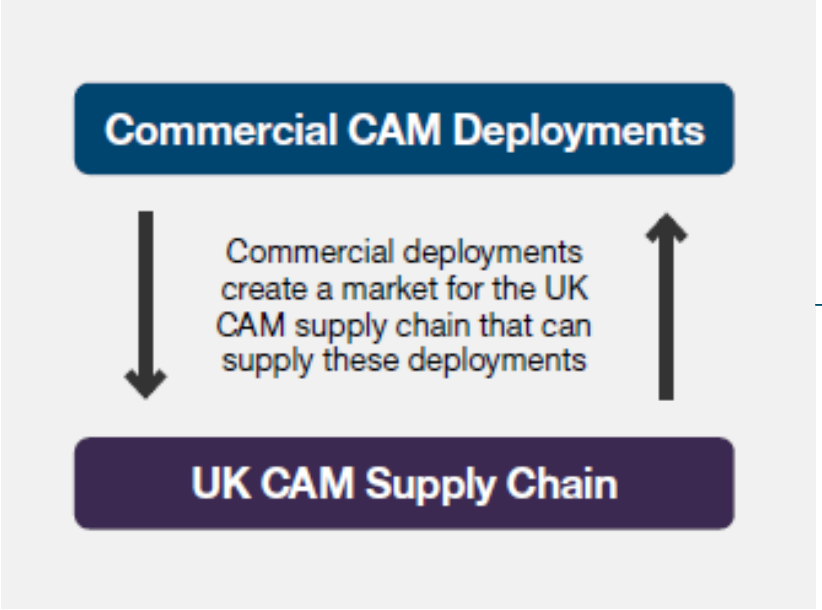
- Advances in automation, connectivity, and electrification (ACE) – together – can make journeys safer, fairer, cleaner, more efficient and more productive, unlocking significant social and economic benefits.
- The market for connected and automated mobility (specifically, for road vehicles with CAM technologies) is estimated to be worth £42bn in the UK and £650bn globally by 2035.



Securing the Industrial & Economic Benefits

Centre for Connected & Autonomous Vehicles

- Helping the sector transition from R&D towards the safe commercial deployment of early technologies and services.



£40m CAM Deployments

Developing new automated passenger and goods services to the point of commercial deployment.

£16m CAM Supply Chain

Developing technologies, products or services to strengthen the UK CAM supply chain capabilities.

£1.5m CAM as Mass transit

Feasibility studies to explore viability of CAM as a significantly more cost effective, and low carbon solution than traditional public transport options.

- Alongside many other activities such as supporting SME's to scaleup, public outreach, skills and training development etc.

Commercialising CAM: Mass transit competition scope

- **Proposals** where Connected and Automated Mobility (CAM) will deliver a significantly more cost effective and low carbon solution than traditional public transport options
- £50-200k
- **Mass transit:** a shared public transportation system through which large number of people are carried from one place to another within a single vehicle or combination of vehicles operating on a defined route
- Proposals that outline: **the design, delivery, and operational cases** for the introduction of a CAM mass transit service, on a specific **UK route currently underserved by public transport,** and how the solution would solve **real-life transport problems**
- Applications where the CAM service is being proposed to be utilised for **logistics services in addition to the passenger services**, provided, the main purpose of the service is to move people.
- Proposals on public spaces, segregated spaces inaccessible to the public, or a combination of both

Commercialising CAM: Mass Transit competition themes

The UK government is seeking:

- To understand the **benefits, costs, and potential for commercial operations of CAM as a mass transit solution** compared to traditional public transport options.
- To understand economic, social and decarbonisation benefits
- To understand commercial viability
- To understand integration into existing public transport networks
- A demonstration of safety and security, including cyber security
- To ensure public trust, accessibility and inclusivity of the service

Commercialising CAM: Mass Transit

Centre for Connected & Autonomous Vehicles

£1.5m for feasibility studies, looking into how self-driving technology could improve public transport in the UK. Approx. £600k awarded in round 1 to following projects:

- **Dedicated Driverless Spaces for Integrated Mass Transit -** The Hertfordshire Essex Rapid Transit route: the A414 between Hemel Hempstead and Stansted Airport.
- **Cambridge Autonomous Rapid Transport -** The corridor will link the Newmarket Road Park & Ride facility (Newmarket Road / Airport Way) through the Cambridge Airport site with Cambridge Station.
- **East Birmingham North Solihull Automated Shuttle Service -** commercial centres of East Birmingham and 'The Hub' North Solihull, connecting deprived communities.
- **Milton Keynes Advanced Very Rapid Transport** - fast, frequent and reliable public transport services, focusing on a small number of key corridors extending out to a radius of 25-30 km around Milton Keynes.

- More information on CAM mass transit and other Commercialising CAM projects can be found here

Delivering the Societal Benefits

In facilitating innovation in future mobility services, our approach will be underpinned by **9 Future of Mobility Principles**

New modes of transport and new mobility services must be **safe and secure** by design

Benefits of innovation must be available to **all parts of the UK** and **all segments of society**

Walking, cycling and active travel must remain best options for short urban journeys

Mass transit must remain fundamental to an efficient transport system

New mobility services must be designed to operate as **part of an integrated transport system** combining public private and multiple modes for transport users.

Data from new mobility services must be **shared** where appropriate to improve choice and the operation of the transport system

New mobility services must lead **transition to zero emissions**

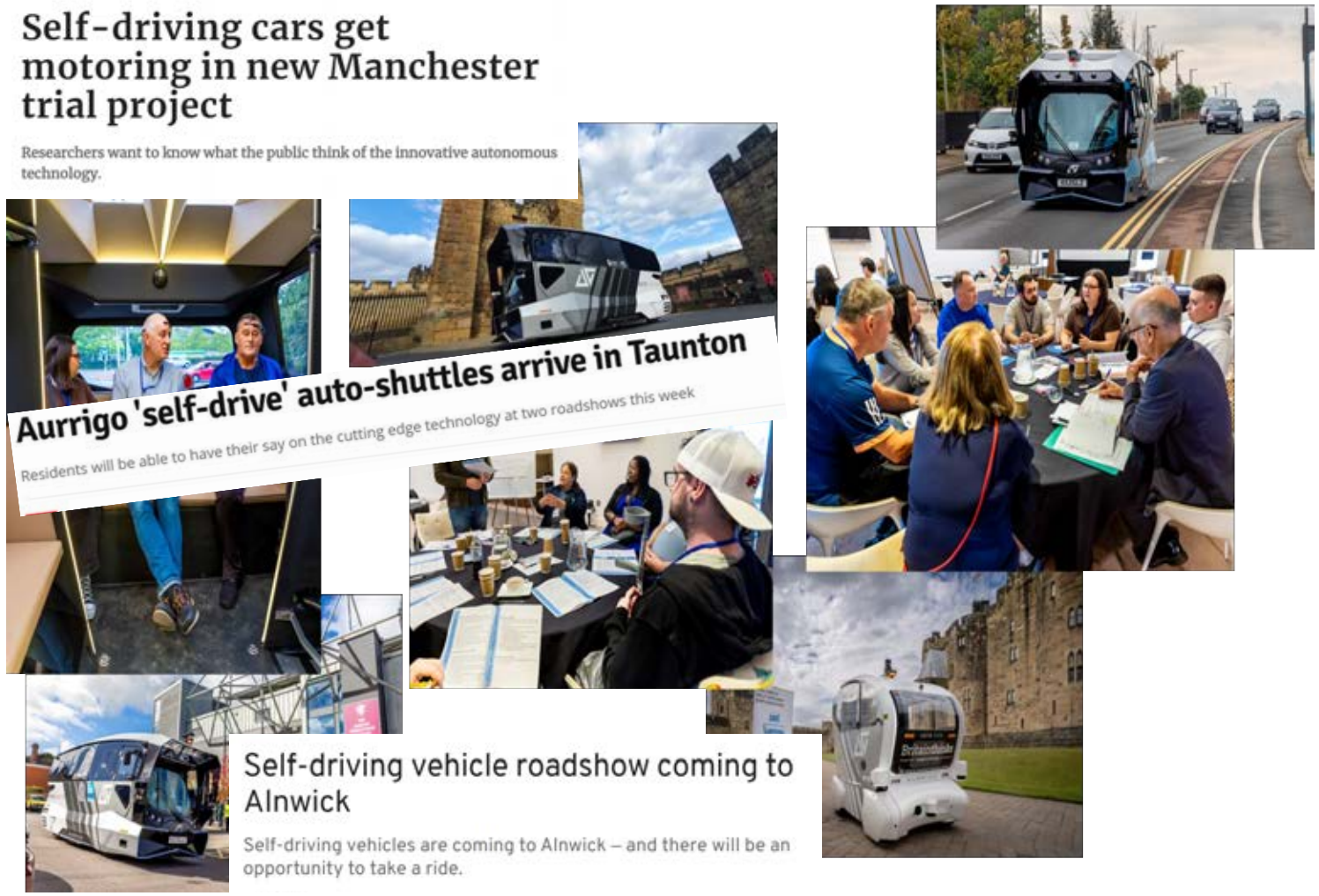
Mobility innovation must help to **reduce congestion** through more efficient use of limited road space

The marketplace for mobility must be open to stimulate innovation and give best deal to consumers

Public engagement and behavioural science

Centre for Connected & Autonomous Vehicles

- CCAV has an embedded behavioural science and research team
- We have conducted large scales programmes engaging with end users to understand and address their needs, expectations and concerns from future transport systems.
- **The Great Self-Driving Exploration**
- **3 self-driving vehicles:** 2 running, one static
- **1073 members** of the public took a ride in a self-driving vehicle
- **426 passenger carrying trips** between the pod and the shuttle
- Please do get in touch if you're further interested in the research.



Ensuring Safety and Security

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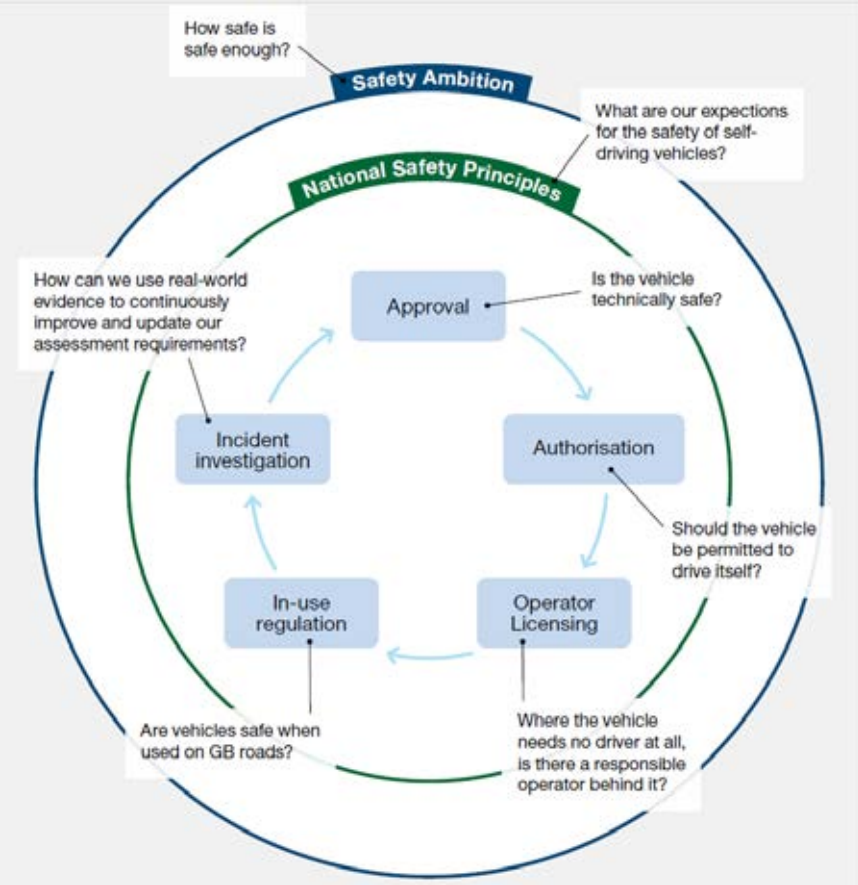
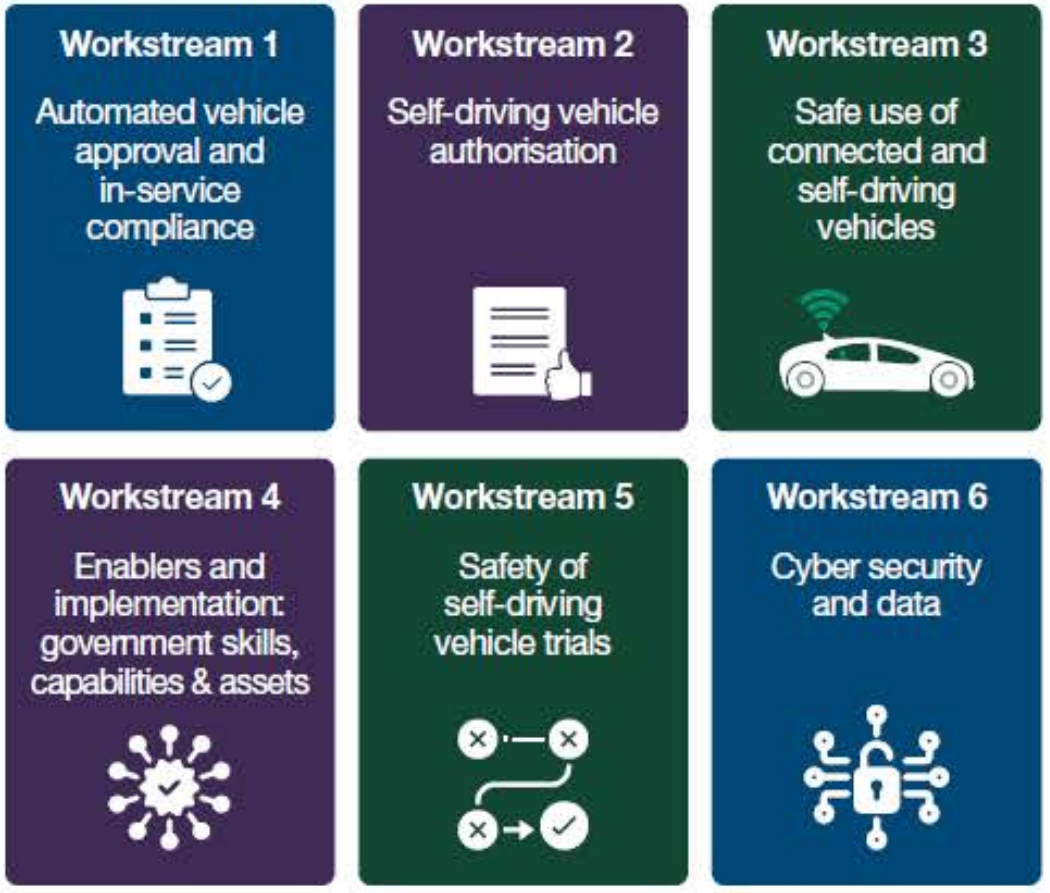
CAM safety ambition to shape safety assurance and legislation



Legislation to clarify responsibilities

Process for safety & cyber security assurance (CAVPASS)



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HM Government

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gov.uk/ccav

@ccavgovuk

Search: Centre for Connected and Autonomous Vehicles

Commercialising Connected & Automated Mobility (CAM) – Mass Transit 2 Scope

Richard Morris – Innovation Lead, 26 May 2023

Introduction

Innovate UK, part of UK Research and Innovation, will work with the Centre for Connected and Autonomous Vehicles (CCAV) to invest up to **£900k** in Feasibility Projects for CAM based Mass Transit solutions.

Competition Link:

https://apply-for-innovation-funding.service.gov.uk/competition/1587/overview/c1338121-472a-4616-af76-ff39bf81b378

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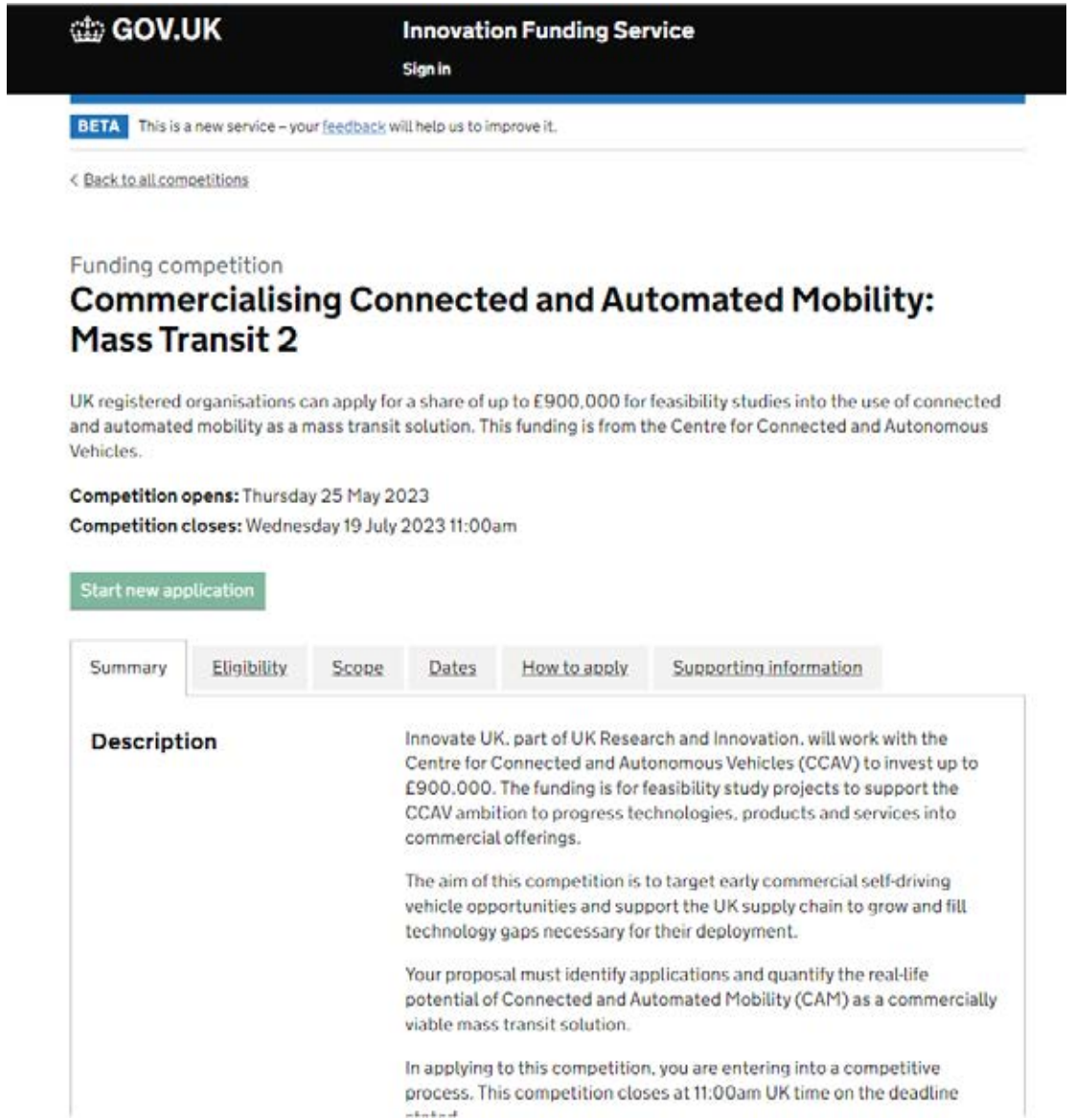

Contents of Presentation

- Competition outline
- Eligibility & project magnitude
- Funding levels
- Scope
- What is out of scope
- Dates & timings
- Subsidy Control / State Aid
- Various other

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Competition Outline

- The Centre for Connected and Autonomous Vehicles (CCAV) has allocated up to £900k for feasibility studies.
- Your project must develop plans for the use of connected and automated mobility as a mass transit solution. We expect to fund 5 to 8 high quality projects that could deliver a significantly more cost effective, and low carbon solution than traditional public transport options.
- Grant funding is available for eligible project costs and grants must be between £50k and £200k.
- Single stage application process – Written application only.

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Competition Eligibility (1)

Your project

Must:

- start by 1 December 2023*
- end by 31st October 2024
- carry out all project work in the UK
- intend to exploit the results in the UK
- work with the Centre for Connected and Autonomous Vehicles (CCAV) to ensure compatibility with relevant current and future regulatory compliance

* This may be delayed if the applicant notification date slips

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Competition Eligibility (2)

Lead organisation

To lead a project your organisation must be either:

- a UK registered business of any size, or
- a UK RO or RTO, or
- a public sector organisation (local authority or transport authority) or
- a transport related charity

The lead must collaborate with at least 1 other UK registered organisations

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Competition Eligibility (3)

Project team

To collaborate with the lead, your organisation must be one of the following. A UK registered:

- business of any size
- academic institution
- charity
- not for profit organisation
- public sector organisation
- research and technology organisation (RTO)

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Competition Eligibility (4)

Project team

Your project must include as a lead or grant claiming partner a:

- Connected & Automated Mobility (CAM) technology provider or an infrastructure provider

Your project needs to demonstrate support and buy-in by a local or regional authority or a local or regional transport authority. This could be demonstrated either with the inclusion of the organisation in the project team or through a letter of support.

The lead and at least one other organisation must claim funding by entering their costs during the application.

Any subcontractors must be UK based (with some limited exceptions) and their combined costs must not exceed 30% of the total grant requested.

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Competition Eligibility (5)

Number of applications

- A business, research organisation, RTO, transport related charity or public sector organisation, can only lead on one application. If leading it can be included as a collaborator in a further 2 applications.

- An eligible organisation not leading an application, can collaborate in any number of applications.

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Industry Partner Funding Levels:

For these feasibility study projects, you could get funding for your eligible project costs of:

- up to 70% if you are a micro or small organisation
- up to 60% if you are a medium sized organisation
- up to 50% if you are a large organisation

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Organisations undertaking non-economic activity

Local Authorities, research organisations, academic institutions, etc.

The organisations undertaking non-economic activity as part of the project can share up to 50% of the total eligible project costs. If your consortium contains more than one organisation undertaking non-economic activity, this maximum is shared between them.

Of that 50% you could get funding for your eligible project costs of up to:

- 80% of full economic costs (FEC) if you are a Je-S registered institution such as an academic institution.
- 100% of your project costs if you are an RTO, charity, not-for-profit organisation, public sector organisation or research organisation.

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Scope 1

Your project must :

- identify a new application for CAM as a mass transit solution and quantify the real-life potential of a suitable low carbon solution which is more cost effective than traditional public transport options
- focus on passenger services, including applications where the CAM service will be utilised for logistics services in addition to the passenger services provided
- align with the nine principles of the Future of Mobility Urban Strategy where appropriate
- address the key issues raised in the Future of Transport: Rural Strategy - Call for Evidence and the associated Summary of Responses, where appropriate
- consider how your passenger service could be improved or expanded in the future, for example, as technology develops, and legislation enables the use of automated vehicles on public roads
- enhance how the public move and encourage active transport and public journeys, wherever appropriate

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Scope 2

Your proposal must :

- outline the design, delivery and operational cases for the introduction of a CAM mass transit service on a specific UK route currently underserved by public transport
- show how the solution would solve real-life transport problems, particularly where traditional mass transit services are not deemed viable
- include how it could be practically delivered and operated as part of a wider integrated public transport network
- set out how and why the proposed automated vehicle service would provide better outcomes than traditional mass transit modes.

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Scope 3

Your passenger service can be operated on:

- public spaces to which the public have access
- private or segregated spaces to which the public do not have access, for example tracks and disused railway routes
- a combination of the above

Your project must submit:

- an interim report by 1 May 2024
- a final report by 31 October 2024
- The local or regional authority or a local or regional transport authority will be required to demonstrate endorsement of the interim report and final report generated by the study.

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Themes

Your project must consider all 12 of the aspects listed in the Themes section of the scope.

You can use a previously submitted application to apply for this competition.

You must ensure that you will comply with all legal requirements in your chosen deployment areas. It is your responsibility to take legal advice in this matter.

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Out of Scope

We are not funding projects that:

- are industrial research or experimental development projects
- propose the use of automated vehicle technology on rail vehicles
- include aircraft or waterborne craft
- are dependent on export performance
- are dependent on domestic inputs usage

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Dates

Announcement & competition open	25 May 23
Briefing event	26 May 23
Out-of-scope query deadline	28 June 23
Competition close	19 July 23 (11.00am)
Applicants notified	4 September 23
Projects must start by	1 December 23*
Projects must end by	31 October 243

* This may be delayed if the applicant notification date slips.

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Russian / Belarusian Aspects:

- Under current restrictions, this competition will not fund any procurement, commercial, business development or supply chain activity with any Russian and Belarusian entity as lead, partner or subcontractor.
- This includes any goods or services originating from a Russian and Belarusian source.

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Subsidy Control & State Aid:

- This competition provides funding in line with the Subsidy Control Act 2022. Further information about the Subsidy requirements can be found within the Subsidy Control Act 2022 (legislation.gov.uk).
- EU State aid rules now only apply in limited circumstances. Check the links in the scope.
- Innovate UK is unable to award organisations that are considered to be in financial difficulty. We will conduct financial viability and eligibility tests to confirm this is not the case following the application stage.

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Other Aspects:

- Technical terminology in your application must comply with the meanings as per BSI Flex 1890 v5.0:2023-03: Connected and automated vehicles – Vocabulary
- Definition of Mass transit: a shared public transportation system through which a large number of people are carried from one place to another within a single vehicle or combination of vehicles operating on a defined route.
- We want to fund a variety of projects across different applications, geographies and operational design domains. We call this a portfolio approach.
- Successful project applications must support and engage with the new Impact and Evaluation framework.
- In your answer to Q4, you are required to provide a map of your intended service route. Details of that route may change through the project.

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Eligibility criteria

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Previously submitted applications

This competition **does** allow you to submit a previously submitted application.

Previously submitted application	Not a Previously submitted application
A previously submitted application is an application Innovate UK judges as not materially different from one you have submitted before (but it can be updated based on the assessors' feedback)	A brand-new application, project or idea that you have not previously submitted into an Innovate UK competition OR A previously submitted or ineligible application which: ✓has been updated based on assessor feedback ✓and is materially different from the application submitted before ✓and fits with the scope of this competition

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Eligibility Criteria - EU State Aid Regulations – Northern Ireland Protocol

If you are an applicant who is conducting activities that will affect trade of goods and/or electricity between Northern Ireland and the EU as envisaged by Article 10 of the Northern Ireland protocol, then you must apply under European Commission State aid rules.

Undertaking in Difficulty

For applicants subject to the European Commission State aid rules, you will be required to prove that they were not an “Undertaking in Difficulty” (UiD). We will ask for evidence of this.

This test applies to:

- companies that are more than 3 years old
- companies where more than half of its subscribed share capital has disappeared as a result of accumulated losses.
- your parent or holding company

Certify you are eligible

When submitting an application, you must certify that you are eligible for State aid. If you are unsure, please take legal advice before applying. Should you be successful, we will apply this test as part of our viability checks before confirming the grant offer.

Further information is available on our website in the general guidance under state aid.

If you are applying for an award funded under State aid Regulations, the definitions for company size are set out in the European Commission Recommendation of 6 May 2003.

Other Innovate UK projects

If you have an outstanding final claim or Independent Accountant Report (IAR) on a live Innovate UK project, you will not be eligible to apply to this competition, as a lead or a partner organisation.

We will not award you any further funding if you:

- applied to a previous competition as the lead or sole company and were awarded funding by Innovate UK, but did not make a substantial effort to exploit that award
- applied to a previous competition as the lead or sole company and failed to comply with grant terms and conditions.

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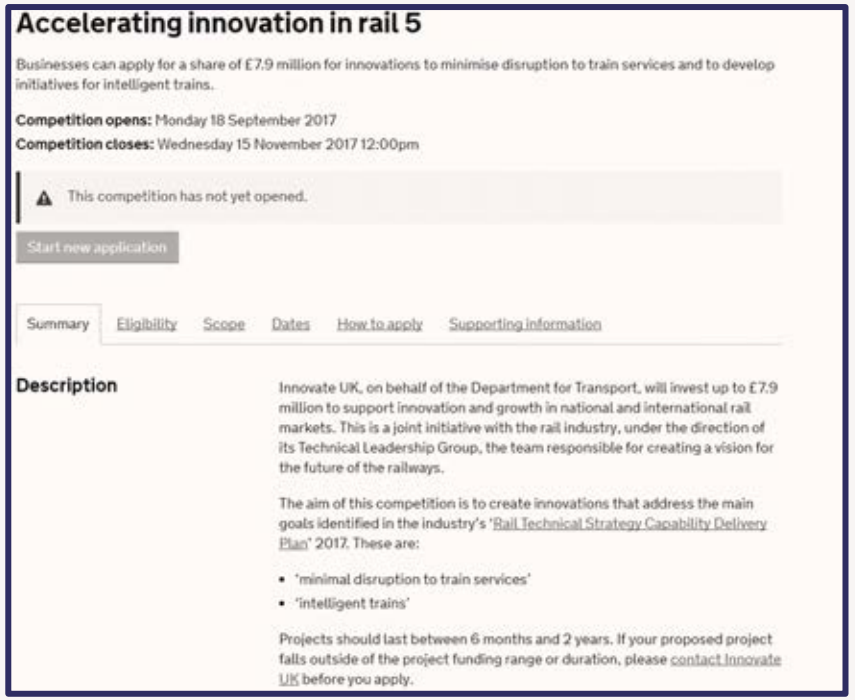
Innovation Funding Service (IFS)

Search for a funding competition and review criteria



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Lead Applicant: create an account

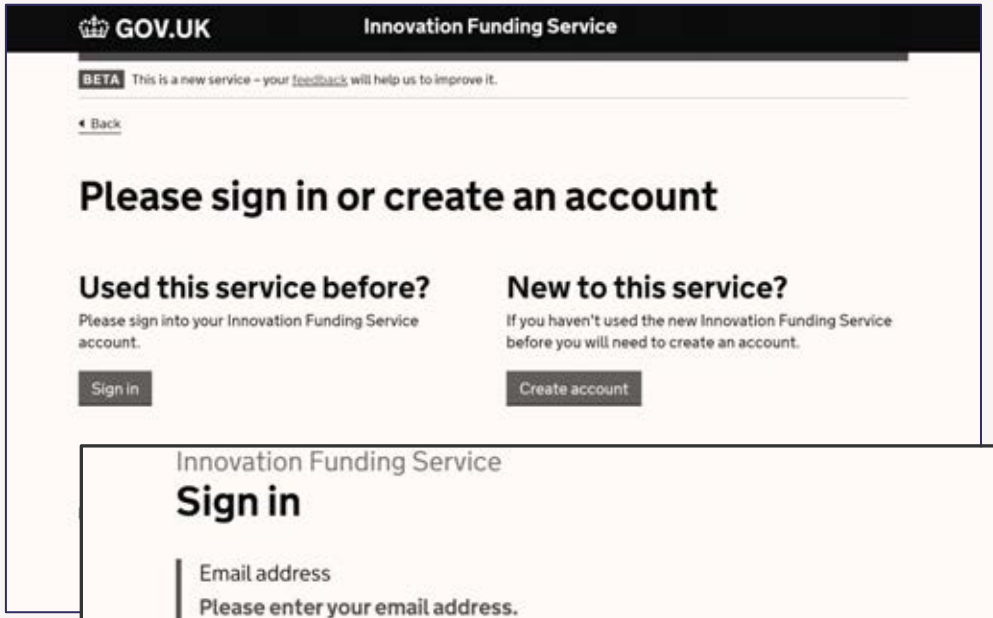
The lead applicant must create an account:

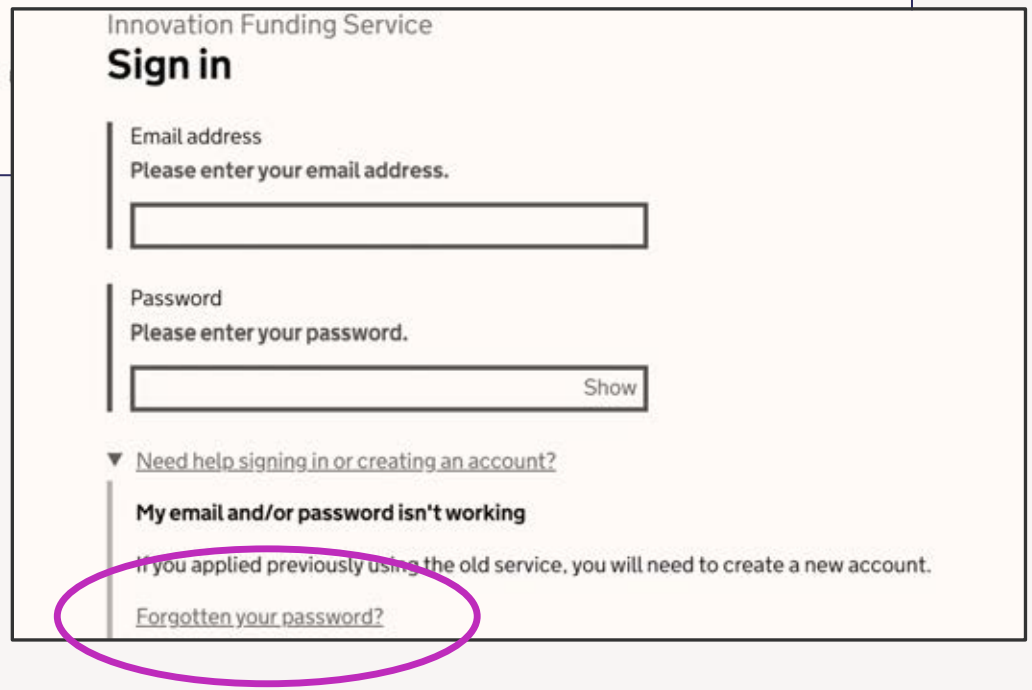
UK registered businesses

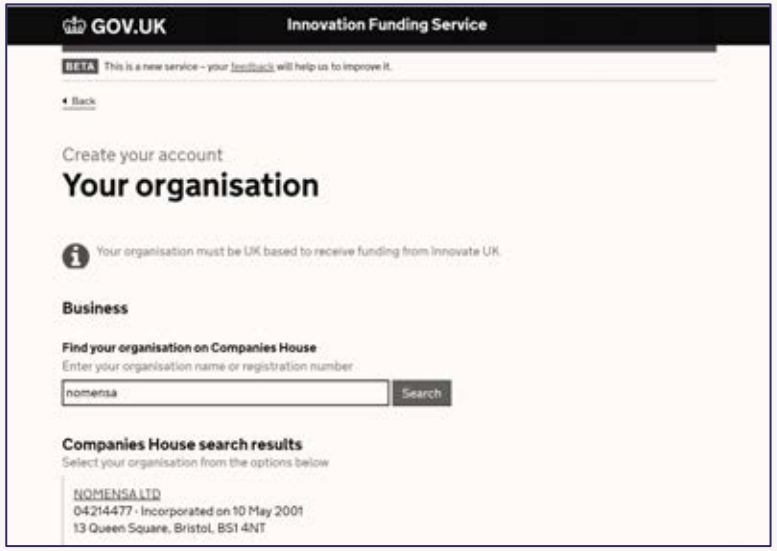
Use Companies House lookup as it speeds up our checks by providing your company number. You are unable to enter this at a later date.

Research organisations, academics and universities

Enter your information manually so you are not listed as a business on IFS and ensure you receive the correct funding.







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Project Details

- **Application Team** - Collaborators can invite organisations who you are working with on the project. Contributors can invite colleagues from your own organisation to help you complete your application. **All team members and Lead applicants must complete the Equality, Diversity and Inclusion survey embedded in IFS as part of your application.**
- **Application Details** - Title, start date and duration.
- **Subsidy basis** - Will the project, including any related activities, you want Innovate UK to fund, affect trade between Northern Ireland and the EU? All participants must complete this section.
- **Project Summary** - Short summary and objectives of the project including what is innovative about it
- **Public Description** - Description of your project which will be published if you are successful
- **Scope - How does your project align with the scope of this competition?** - If your project is not in scope, it will be ineligible for funding

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Application Questions

Detailed guidance available on IFS

Application Form		Appendix?
Question 1	Applicant location (not scored)	No
Question 2	Equality, diversity and inclusion (not scored)	No
Question 3	Need or challenge	No
Question 4	Approach and innovation	Yes - optional
Question 5	Team and resources	Yes - optional
Question 6	Market awareness	No
Question 7	Outcomes and route to market	No
Question 8	Wider impacts	No
Question 9	Project management	Yes - mandatory
Question 10	Risks	Yes - mandatory
Question 11	Added value	No
Question 12	Costs and value for money	No

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Application finances

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To claim funding

Your business does not have to be UK registered with Companies House when you apply but it must be registered before you can receive funding.

You are unable to claim funding if:

- you are an overseas organisation, so your company number begins with FC
- your organisation is setup as a branch, so your company number begins with BR
- you are a collaboration with no formal structure of ownership or control, so your company number begins with ML
- you are a Crown Dependency:
  - if your company is based in Jersey, your company number begins with JE
  - if your company is based in Guernsey
  - if your company is based in the Isle of Man

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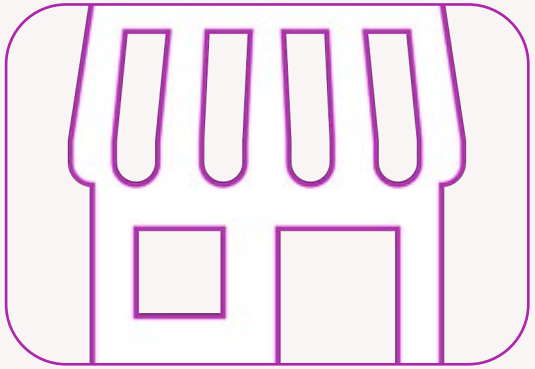
British Overseas Territories

You are also unable to claim funding if your company is based in any of the British Overseas Territories (BOTs):

- Anguilla
- Bermuda
- British Antarctic Territory
- British Indian Ocean Territory
- British Virgin Islands
- Cayman Islands
- Falkland Islands
- Gibraltar
- Montserrat
- Pitcairn Islands
- Saint Helena, Ascension and Tristan da Cunha
- South Georgia and the South Sandwich Islands
- Turks and Caicos Islands

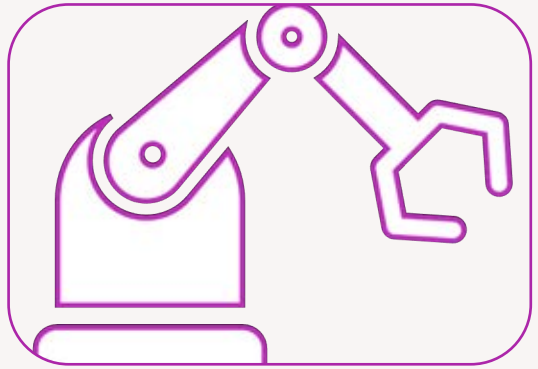
Your Project Cost Categories

Labour

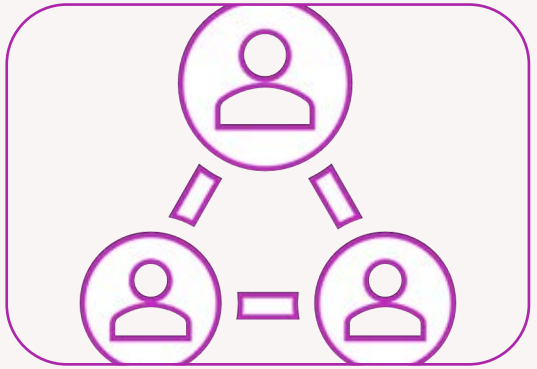


Overheads

Materials

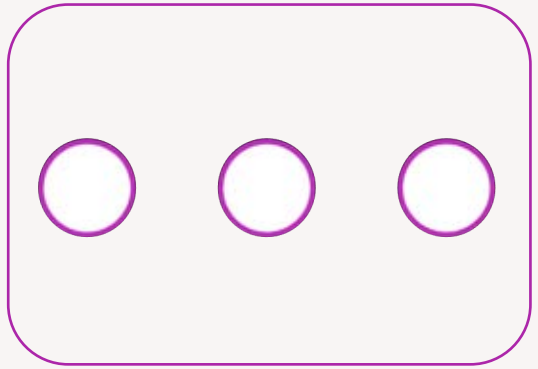


Equipment Usage



Subcontractors

Travel & Subsistence



Other

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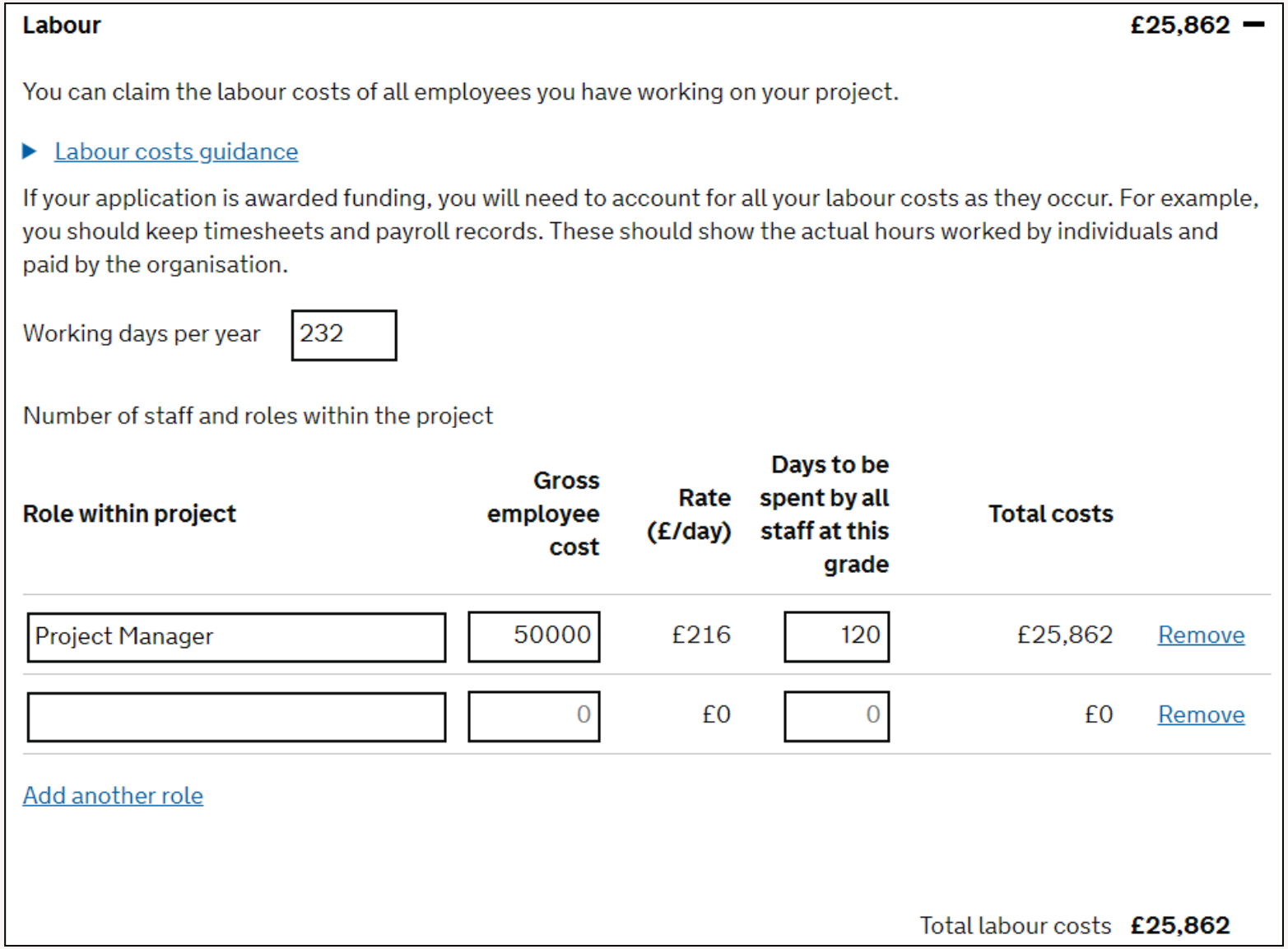
Labour

Costs supported:

- Roles and number of days spent working on project(time sheets required)
- 262 work days per annum(less Public holidays and entitlement)
- paid by PAYE
- Employers NI, annual salaries, pension, Health insurance

Costs not supported:

- Dividends & bonuses
- Holiday(excluding that mentioned in eligible costs)
- Training days
- Names not roles assigned to project costs



Labour **£25,862**

You can claim the labour costs of all employees you have working on your project.

▶ Labour costs guidance

If your application is awarded funding, you will need to account for all your labour costs as they occur. For example, you should keep timesheets and payroll records. These should show the actual hours worked by individuals and paid by the organisation.

Working days per year 232

Number of staff and roles within the project

Role within project	Gross employee cost	Rate (£/day)	Days to be spent by all staff at this grade	Total costs	
Project Manager	50000	£216	120	£25,862	Remove
	0	£0	0	£0	Remove

Add another role

Total labour costs **£25,862**

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Material costs

Costs supported

Off the shelf items via 3rd Party suppliers

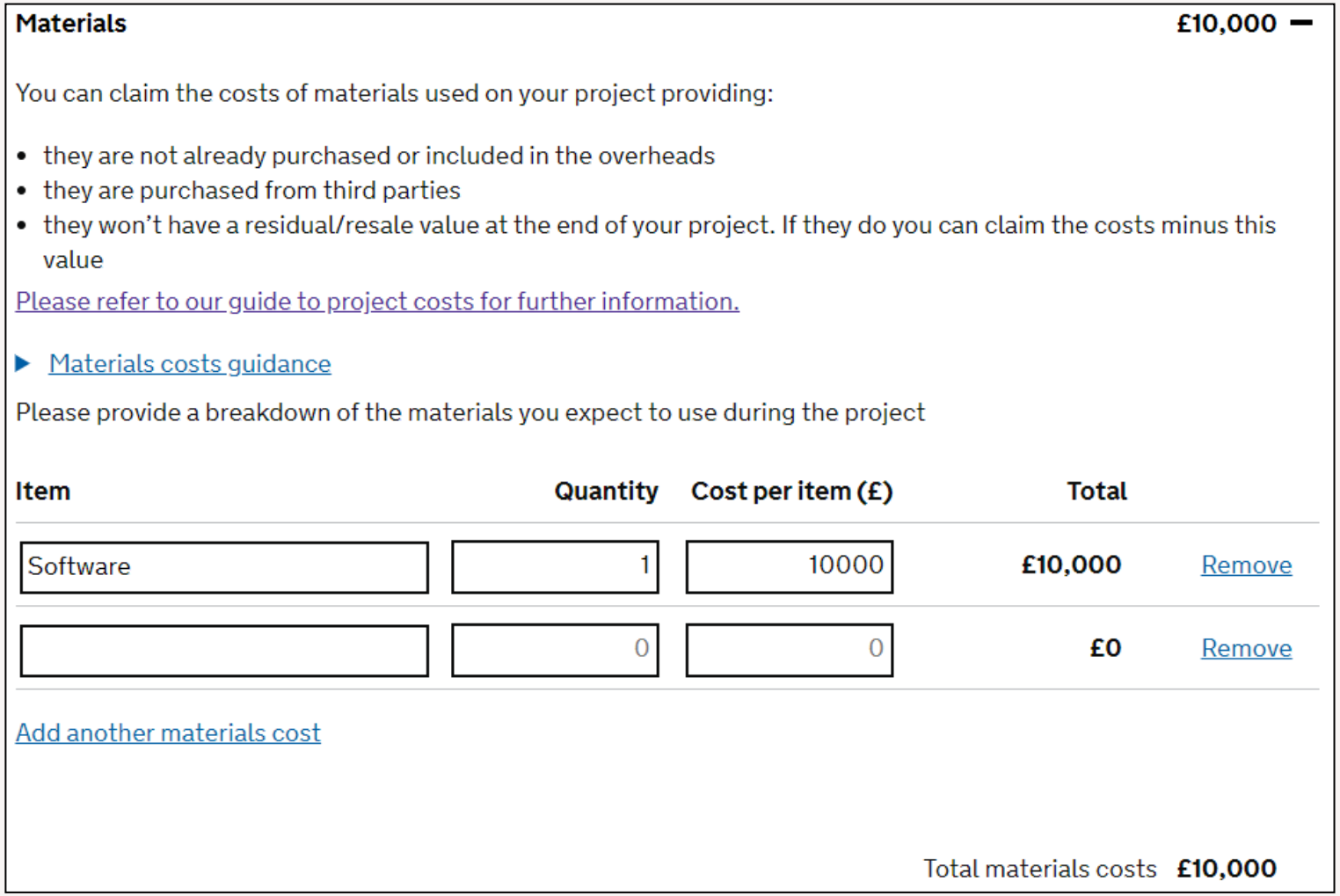
Items from stock with the replacement of items invoice (used as evidence of supply)

Costs not supported

Whole bulk buy invoices, when only partially used with project work

Items from stock that aren't being replaced

Equipment treated as assets



Materials £10,000 −

You can claim the costs of materials used on your project providing:

- they are not already purchased or included in the overheads
- they are purchased from third parties
- they won't have a residual/resale value at the end of your project. If they do you can claim the costs minus this value

Please refer to our guide to project costs for further information.

▶ Materials costs guidance

Please provide a breakdown of the materials you expect to use during the project

Item	Quantity	Cost per item (£)	Total	
Software	1	10000	£10,000	Remove
	0	0	£0	Remove

Add another materials cost

Total materials costs £10,000

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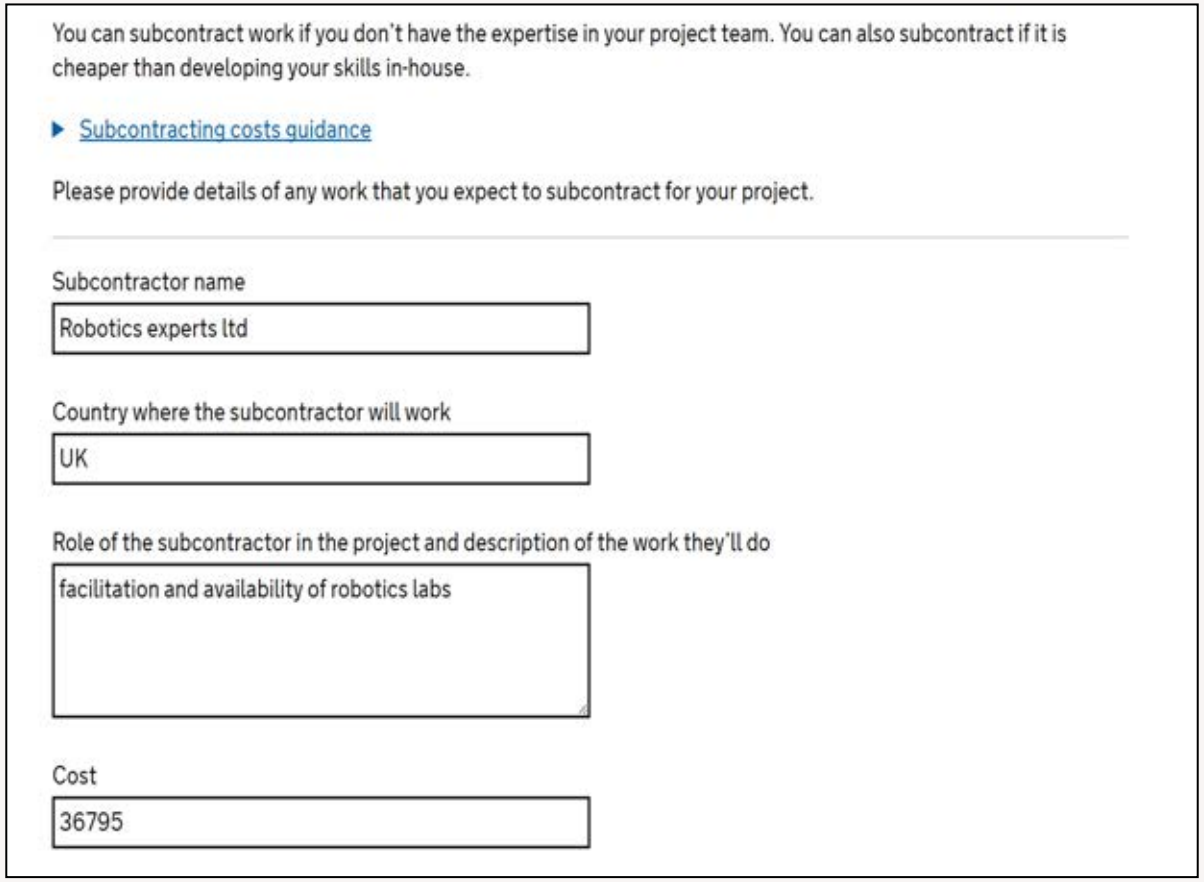
Subcontractors*

Costs supported

Justification required if non-UK supplier chosen
Independent contractor via 3rd Party suppliers
Linked supplier must be charged at cost
Description of work covered

Costs not supported

Intercompany uplifts or profits
Overseas contractors, if UK contractor available- without justification



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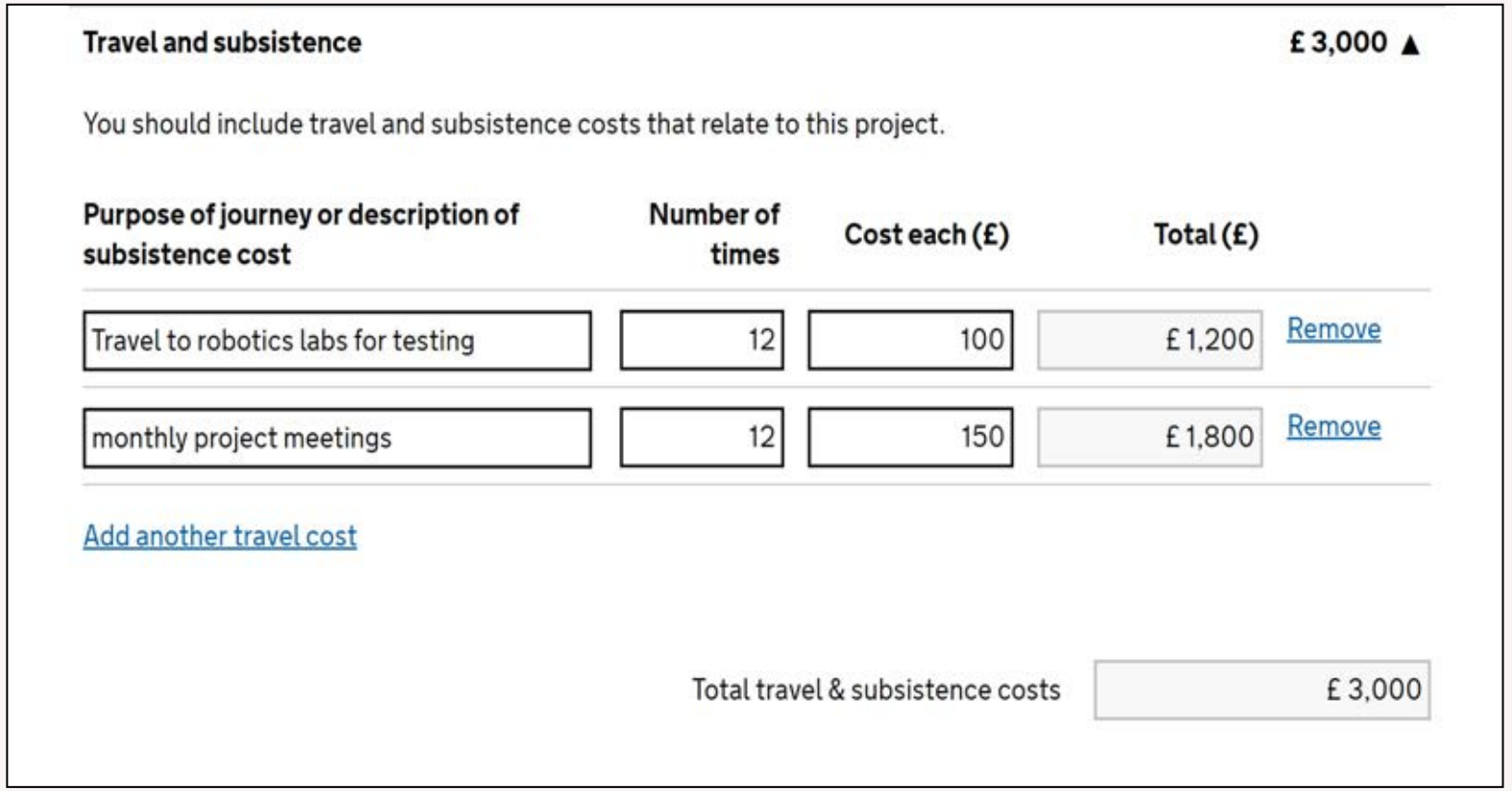
*You will be required to provide invoices and a description of work

Travel and subsistence*

Costs supported
Rail, Car or Plane**
Mileage at HMRC rate
Hotel (Bed and Breakfast)
Reasonable food costs(overnight stay only)

Costs not supported
Fuel
First class travel
Entertaining or marketing
Visas
Unreasonable food costs(overnight stay only)



Travel and subsistence £ 3,000 ▲

You should include travel and subsistence costs that relate to this project.

Purpose of journey or description of subsistence cost	Number of times	Cost each (£)	Total (£)	
Travel to robotics labs for testing	12	100	£ 1,200	Remove
monthly project meetings	12	150	£ 1,800	Remove

Add another travel cost

Total travel & subsistence costs £ 3,000

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*You will be required to provide vouchers, tickets and invoices and ** must provide number of people travelling, the destination and purpose of visit

Overheads

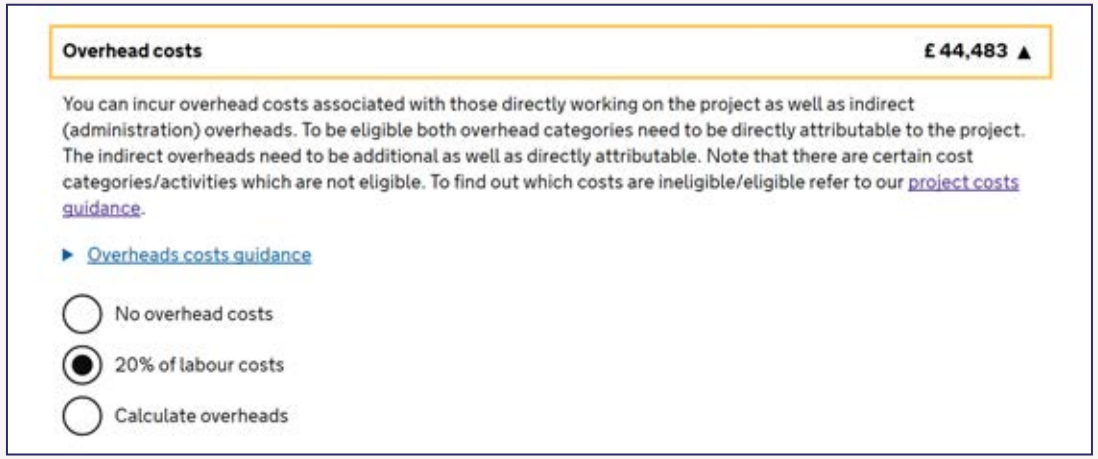
Innovate UK's included costs are those incurred as a direct result of the project

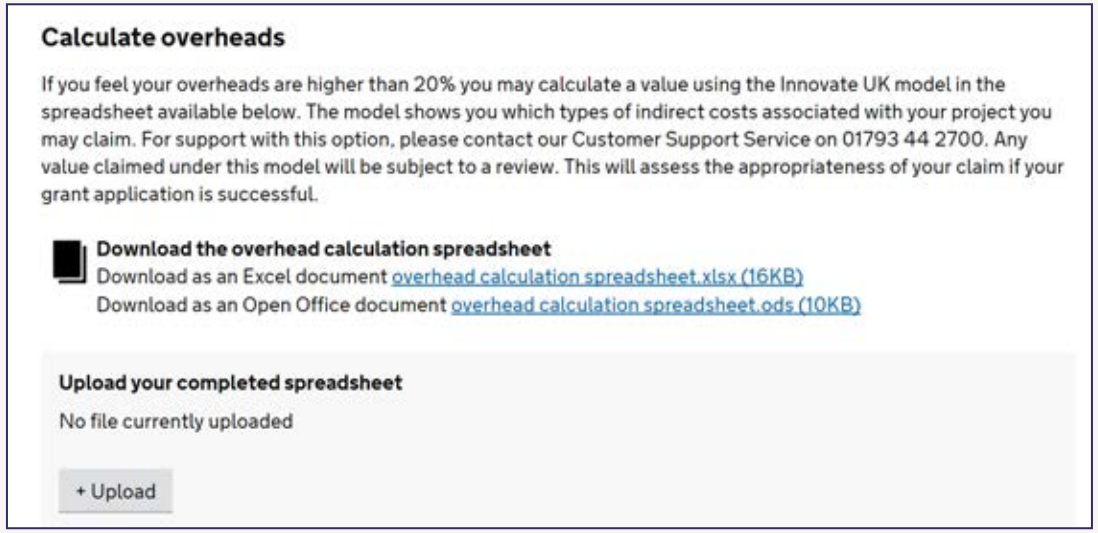
Costs supported

Additional costs for administrative staff
Day to Day Calculation for those people listed in the Labour Costs Table, multiplied by the numbers of days working on the project work.

Costs not supported

Excessive costs of Senior Managers only overseeing project activities
Business as usual day to day rates for Administration
Uplifts of any kind





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Other*

Costs supported

Facility usage**
Licence fees(or appropriate proportion)
Miscellaneous(not covered in other categories)
Quality certification***
Specific PPE
Dissemination costs

Patent filing costs (for SMEs only) limited to £7.5k

Costs not supported

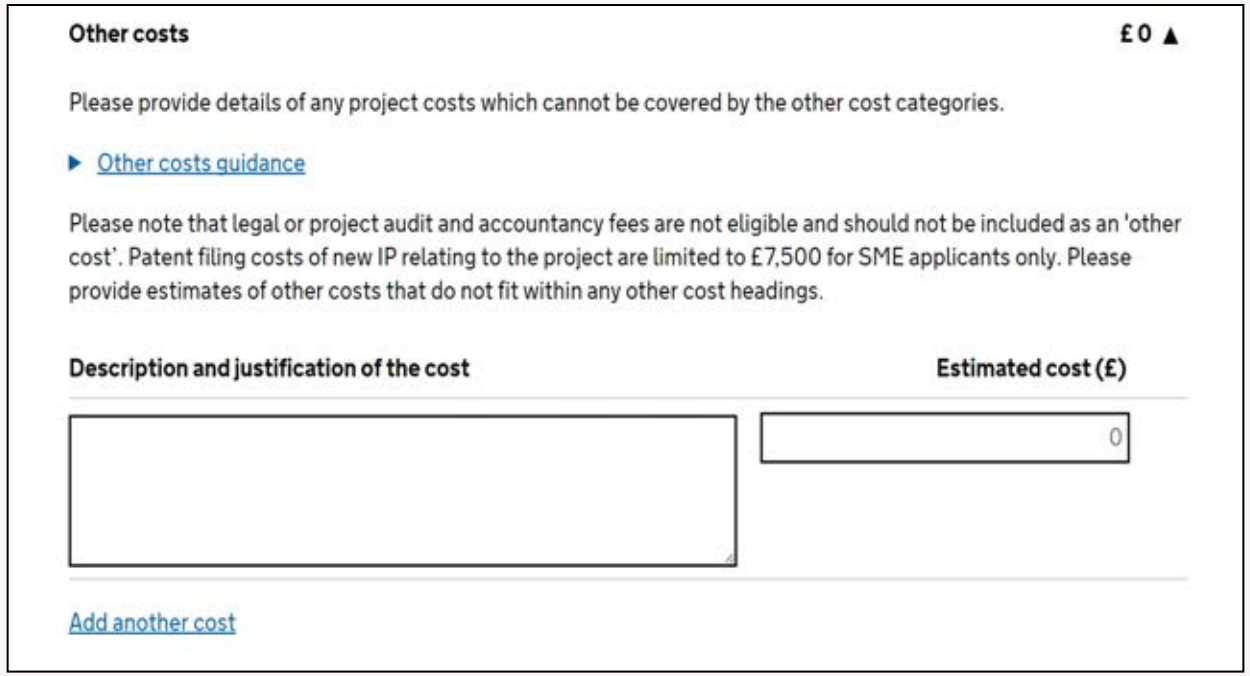
Facility charge rates
Marketing

Trademark
Undefined mixed costs
Contribution in kind
Business as usual costs

*You will be required to provide invoices and basis of daily rates

**At daily or hourly cost

***Where required for sign off



Innovate UK

Funding

Funding rules

The level of funding awarded will depend upon the type of organisation and the type of research being undertaken in the project

Funding is calculated by project participant

IFS will advise the maximum grant % you can request based upon your answers to:

- type and size of organisation
- research category defined by the lead applicant in the Application Details section of the application

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Academic partners

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Why Je-S?

We use the Research Councils' Joint Electronic Submission System (Je-S) to collect academic finances.

The Je-S system automates the collection of Full Economic Costs (FEC) based costs from academic partners and tells them exactly what numbers should be used in the application form for their costs.

Also to collect project finance details from non-HEIs (e.g. RTOs) that are claiming they are carrying out academic quality work and want to be funded on an FEC basis.

Using Je-S means that Innovate UK follows standard Research Council guidelines on funding universities and enables Research Councils to easily co-fund Innovate UK projects.

The Je-S system is completely separate from Innovate UK and we cannot advise on its usage.

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Project costs – academic partners

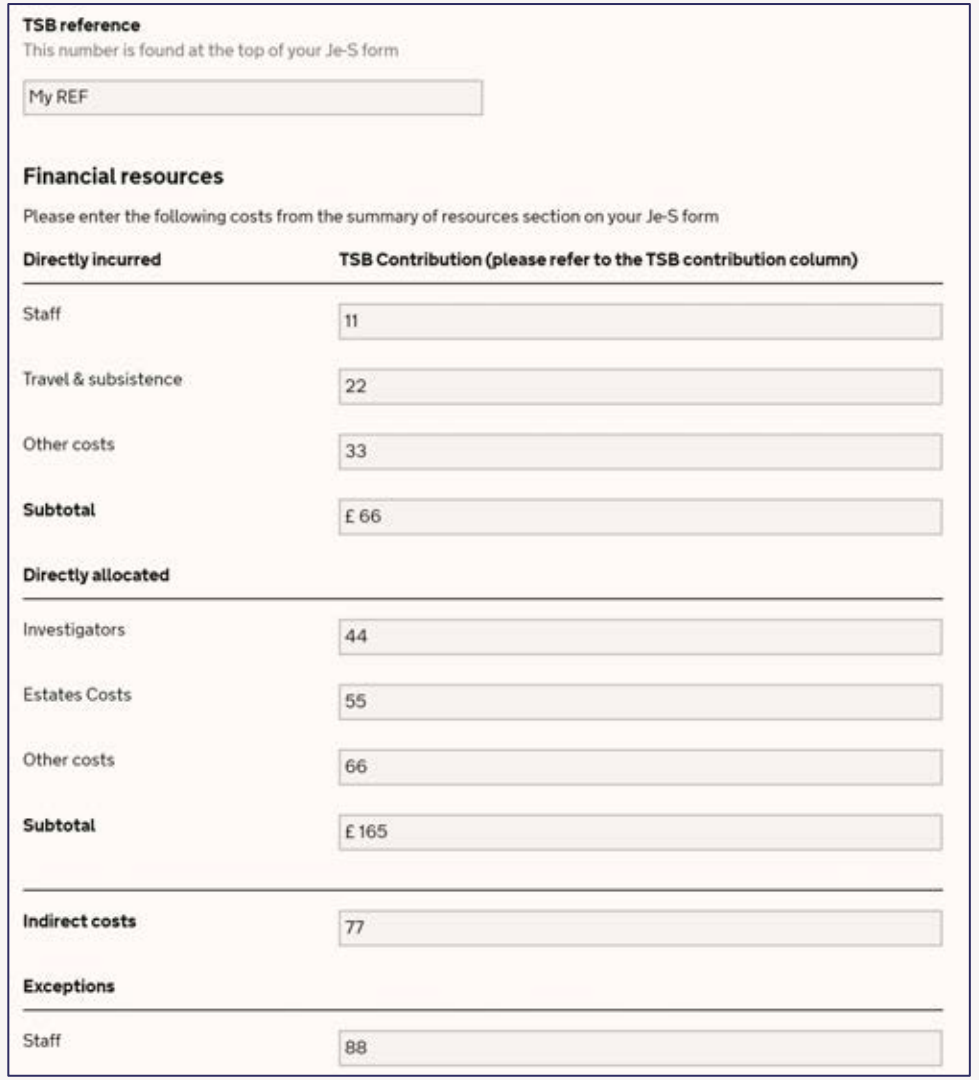
Enter the TSB reference number here

Enter the TSB Contribution column figures from *your* J-eS output document into the project costs section of the application.

Upload the Je-S with council status form as a PDF at the bottom of the screen.

Any queries, contact Je-S Helpdesk (not Innovate UK)

- jeshelp@je-s.ukri.org
- 01793 444164



TSB reference

This number is found at the top of your Je-S form

My REF

Financial resources

Please enter the following costs from the summary of resources section on your Je-S form

Directly incurred	**TSB Contribution (please refer to the TSB contribution column)**
Staff	11
Travel & subsistence	22
Other costs	33
Subtotal	£ 66
Directly allocated	
Investigators	44
Estates Costs	55
Other costs	66
Subtotal	£ 165
Indirect costs	77
Exceptions	
Staff	88

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Submitting your application

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Checking your finances are complete

Finances Summary

The following organisations have not marked their finances as complete:

- EMPIRE LTD

Return to the finances section to complete your finances

This application cannot be submitted unless finances have been marked as complete by all partners.

		Total costs	% Grant	Funding sought	Other public sector funding	Contribution to project
Barry Shaw Experts Ltd Partner	✓	**£230,162**	70%	£161,113	£0	£69,049
EMPIRE LTD Lead organisation	⚠	**£282,655**	70%	£197,859	£0	£84,797
University of Bath Partner	✓	**£239,114**	0%	£0	£0	£239,114
Total		**£751,931**		£358,972	£0	£392,959

All organisations have marked their finances as complete.

Research organisation participation is no greater than **50**% of the total project costs.

IFS DOES NOT VALIDATE TOTAL PROJECT COSTS

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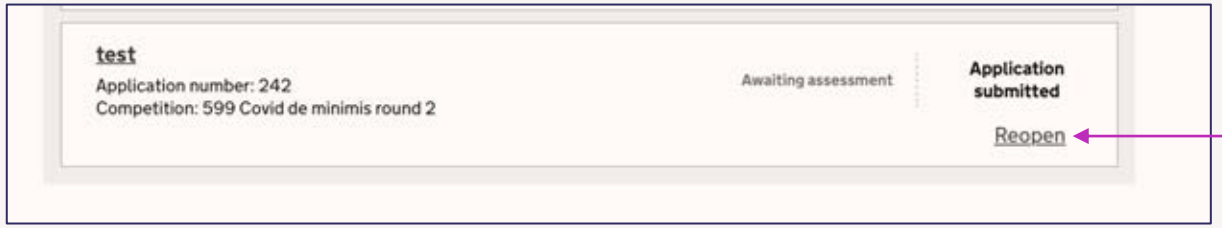
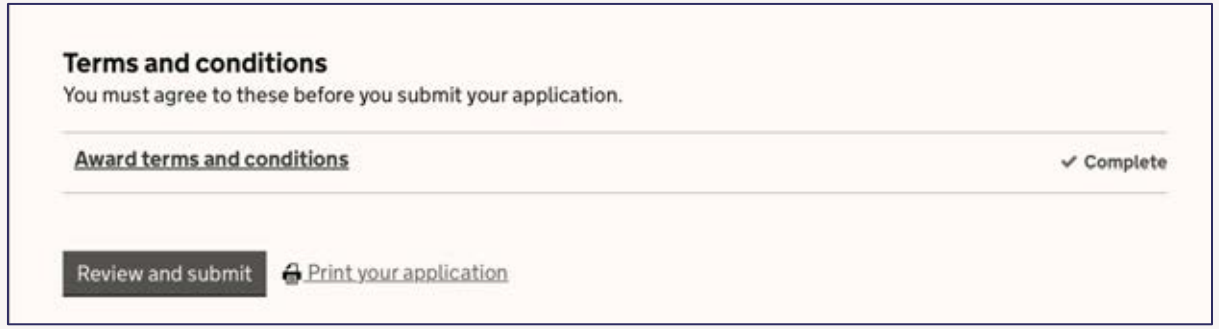
Editing a submitted application



Reopen by clicking here



Remember to press ‘Submit application’

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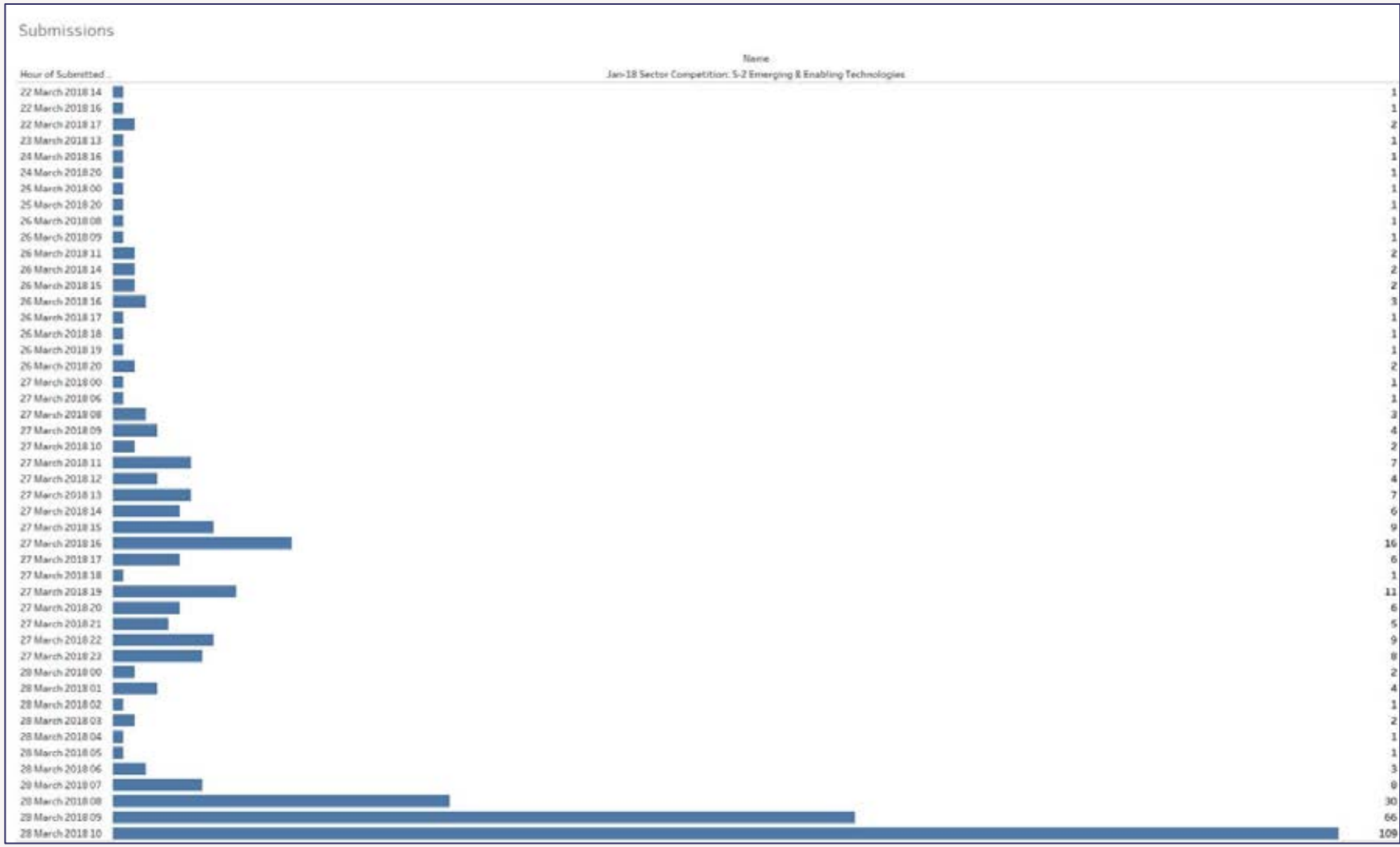
Submit your application early!

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.



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Assessment

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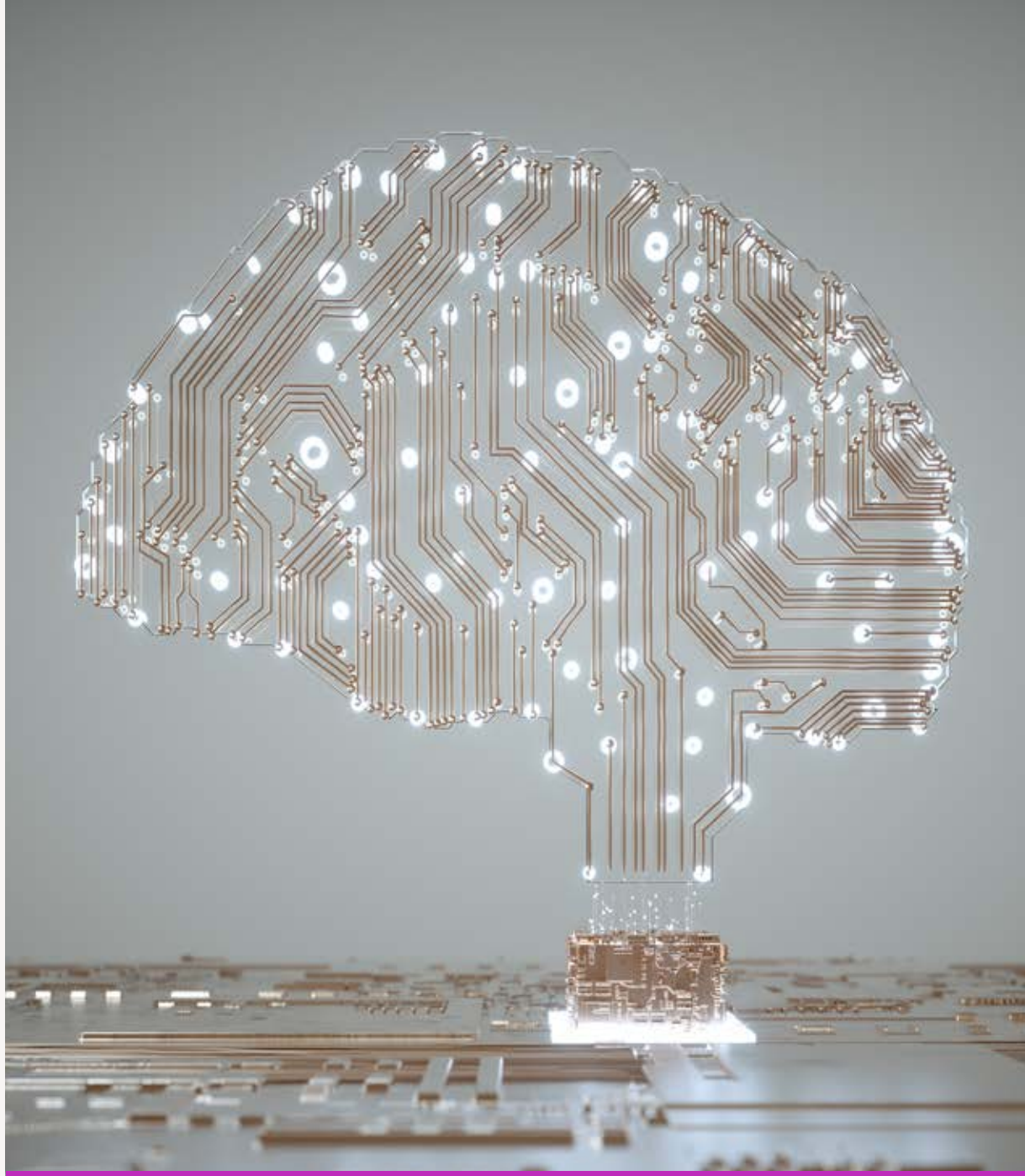
How do our assessors assess?

How are successful applications selected for funding?

Project setup for successful applicants



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Notification

If you are unsuccessful in this competition

You can use the feedback from the assessors to develop your idea and apply into another competition that allows previously submitted applications

If you are successful in this competition

- you will be assigned a Delivery Executive who will guide you through the Project Set Up process
- you will have 7 days to complete the project team, project details and bank details
- you will then have **90** days to complete project set up – funding may be withdrawn if this is not completed within this timeframe

Please ensure all your contact details in the IFS portal are correct and up to date and that you regularly monitor it.

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Project set up

- All communication will be through IFS.
- Lead applicant must provide collaboration agreements and exploitation plans if applicable.
- Any partners with individual total project costs of **up to** £50,000 must provide evidence with a Statement of Expenditure (SoE).
- Any partners with individual total project costs **above** £50,000 must provide evidence with an Independent Accountants Report (IAR).

Project delivery

- All grants are paid **quarterly** in arrears and are only paid following **quarterly** reporting and necessary audits.
- Claims can only be made for costs incurred and paid between the project start and end dates.
- Monitoring of the project includes a visit from the appointed Monitoring Officer.

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Project Impact questions

- Each organisation in your application will complete the Project Impact questions within the ‘Supporting information’ section
- The Project Impact questions ask for data about your business and innovation and its contribution to the UK economy, society, and the environment
- Visit the Project Impact guidance page for more information, the types of questions you will be asked and how to get further support
- By providing this data, you are enabling us to better understand the impact of our support. It will help us identify success stories and provide evidence to government and the public of the value of supporting innovative businesses

For more information:

- Watch Our Impact Management Framework video here
- Watch How is the Project Impact data collected? video here

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Additional Support

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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*

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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

UKRI Innovate UK EDGE

Innovate UK EDGE

Innovate UK EDGE

Contact us via:
innovateukedge.ukri.org

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.

UKRI Innovate UK

Available Support

- We welcome and encourage applications from people of all backgrounds and are committed to making our application process accessible to everyone.

- This includes providing support for people who have a disability or long-term condition and face barriers applying to us.

- So, if you would like any support, please contact our Customer Support Service Team on **support@iuk.ukri.org** or at **0300 321 4357**.

UKRI Innovate UK

What to Expect

1.	2.	3.	4.	5.
Contact our Customer Support Services Team as early as possible – we suggest at least 15 working days before the deadline	Complete a request form which will be sent to our partner Diversity & Ability (D&A)	D&A will conduct a Discovery Conversation with you and make reasonable adjustments recommendations	D&A will organise and deliver bespoke reasonable adjustments for and with you	Submit your application – please do so well ahead of the deadline as extensions cannot be provided

UKRI Innovate UK

D&A Diversity and Ability

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

UKRI Innovate UK

Pitch

Innovate UK
KTN

Fusion Processing Ltd: Next Gen Bus Rapid Transit Infrastructure for Automated Operations

Proposed Approach/Project idea

Project Idea*:*
To design a new type of Bus Rapid Transport infrastructure and operating system suited to automated commercial vehicles

To quantify the cost and characteristics of the proposed system to allow meaningful comparisons with alternatives such as light rail and tram systems

Problem:
1/ Current BRTs are designed to use contact guide wheels,
2/ UK current legislation allows AV trials only

Solution: Use of AV L4 and ALK technology:
We expect to be first UK supplier with a certified Auto Lane Keep system for commercial vehicles. We can therefore offer a 2 step implementation (if necessary):
Step 1: Using buses/trucks operating on the new BRT with ALK
Step 2 (when legal): Operating at AV level 4 with safety driver either on or of board

Organisational Capabilities

We have:

We can utilise our existing Fiat Ducato Van Test Bed vehicle - - AV Level 4, multiple V2X comms, and workstations on board, for any test work
We have a complete AV Level 4 system that has been applied to 4 different commercial vehicle types
We have practical experience from operating AV buses in UK roads, weather etc on 24/7 timetable

We need:

A local authority or city planning team that are contemplating a light rail or BRT type solution in the future - - to allow us jointly to quantify the pros and cons of building an AV type BRT – infrastructure cost/time, operating characteristics etc

Experience – Our core team comprises

Engineers, Safety Experts, Planners experienced in developing situational awareness technology, automated systems and working with large bus and commercial vehicle operators and OEMs
Our AV Level 4 projects include:
MultiCAV: Oxfordshire: Operating now: With First Group operating passenger service around business park and link to station using Mellor and Switch buses
CAVForth: Edinburgh: Operating now: With Stagecoach operating passenger service over 14 mile each way route using Alexander Dennis buses
Hub to Hub: With Asda operating HVS vehicles – on road 2025

Administrative Information

Contact : Jim.Fleming@fusionproc.com

Thank You