



# Transport-Technology Research Innovation Grants 2020

## Grant Specification

### Introduction

The Transport-Technology Research Innovation Grants (T-TRIG) Programme 2020 launched on the 14<sup>th</sup> September. We are looking to run an open call and two targeted competitions offering grants of up to £30K.

T-TRIG is a scheme that enables the Department for Transport (DfT) to fund proof-of-concept research projects in support of innovative ideas or concepts that facilitate a better transport system. T-TRIG aims to:

- Foster innovation to improve UK transport.
- Generate growth in the transport sector.
- Build links between policy teams in DfT and innovators.

This document provides details of the scope of the funding calls within the 2020 T-TRIG competition. Applicants are advised to consider these specifications along with the guidance document to ensure the application questions are addressed appropriately. The scope and size of T-TRIG competitions varies with each round of funding to remain in line with the Department's needs. Generally, it is formed of an open call and one or more targeted calls in specific areas.

T-TRIG competitions are suitable for ideas or approaches at the early stages of research or innovation. They provide the opportunity to undertake a proof of concept or develop a feasibility study or, in some areas, test a market.

Proposals should clearly highlight the innovate and novel aspects of their potential transport solution.

The solution could well be a completely novel idea or approach. However, approaches or innovations from other areas, applied in a novel way to transport will also be of interest.

### 2020 T-TRIG Competitions

The 2020 T-TRIG scheme will comprise of three separate calls. Each call has been allocated its own budget.

<b>Theme</b>	<b>Indicative Number of Projects</b>	<b>Indicative Funding</b>
Open Call	5	£150k
Decarbonising the Transport System	10	£310k
COVID-19 Recovery	8	£250k
<b>Total</b>	<b>23</b>	<b>£710k</b>

All funding calls will use the same application form and assessment criteria.

All applications must be innovative and focussed on science, engineering or technology to solve a transport challenge. Projects must have an innovative aspect, although this does include products being used in innovative ways, outside of their original intended use.

Each individual application can only be submitted to one of the above funding calls, although applicants can submit different bids under the different competition calls. Please note that applicants making more than one application will need to demonstrate an ability to deliver the projects concurrently.

Projects supported through this T-TRIG funding call must deliver a robust assessment of the transport benefits that their proposals can bring. Successful applications will need to clearly demonstrate the following:

- What transport challenge(s) the innovation is aiming to solve.
- Evidence of state-of-the-art innovation being carried out in practice.
- That the team has the skills and expertise to deliver the project plan.
- The project will deliver tangible transport and/or commercial opportunities for the UK.

T-TRIG encourages applications from any type of organisation and from individuals. The application form has been designed to be light touch, to lower barriers to entry and promote the inclusion of SMEs. The Department seeks genuinely innovative solutions and would welcome bids from 'non-transport' organisations or consortia that can see a role for their technologies, tools and approaches in delivering benefits in this space.

Applicants should consider and incorporate accessibility within their project specifications for all funding calls.

Post-funding support will be available in the form of the services of the Connected Places Catapult and opportunities to work with DfT and our Arm's Length Bodies. Plans for post funding exploitation will be discussed at kick-off meetings for successful applications.

The budgets above are indicative. Some flexibility will be applied, depending on the level of high-quality applications submitted against each theme.

## Open Call

The purpose of the open funding call is to seek innovative ideas that have the potential to address a UK transport challenge, across all modes and technology areas.

It should be noted that although the open funding call is available to solutions to all transport challenges, applicants should consider their proposals within the context of [DfT's priorities](#) and the [Industrial Strategy Grand Challenges](#).

Further guidance on innovation in aviation can be found chapter 8 of the [Aviation 2050 consultation](#).

Projects must clearly articulate what challenge or unmet need is being addressed. The solution to this challenge must be innovative and have a strong science, engineering or technology focus.

A fully competent team should be able to deliver the aims and objectives of the study. A credible project plan and risk assessment should be presented. Risk mitigation measures should be suitably identified.

Clear consideration should be given to the broader impact of the work and how additional funding to take the product to the next level will be achieved.

Applicants should consider and incorporate accessibility within their project specifications.

The following examples are out of scope for this funding:

- Capability demonstrations of currently marketed or existing technology

Projects must have an innovative aspect, although this does include products being used in innovative ways, outside of their original intended use.

## Budget and Bidding

Applicants can apply for a project grant of up to £30,000.

The budget available for the open funding call is approximately £150,000. We are looking to fund around 5 projects; however, this will depend on the quality of applications.

Applicants are encouraged to consider the scoring matrix in the development of their proposal to ensure the development of credible bids.

## Decarbonising the Transport System

This specification details the scope of the Decarbonising the Transport System funding call and those aspects which are out of scope.

If applying to this targeted funding call, applicants are advised to consider this specification along with the guidance document to ensure the application questions are addressed.

Project applications should describe how the proposed solution will decarbonise the transport system. This includes all modes of transport – road, rail, aviation and maritime - and intermodal or cross-modal ideas.

Applicants should consider and incorporate accessibility within their project specifications.

## Background

Transport's contribution to carbon emissions is now the largest of any sector in the UK - while other sectors such as energy have significantly reduced their emissions since 1990, transport's emissions have remained stable. Consequently, decarbonisation is one of the Department's greatest challenges and is closely aligned with the Industrial Strategy's Clean Growth and Future of Mobility Grand Challenges.

Low carbon and net zero emission transport is fertile ground innovations which lead to growth. The industry is very motivated to support the development of emission reduction technologies that may stimulate clean growth opportunities (including export opportunities) for the UK.

## Scope

The Department is running a competition which could fund projects to either develop an initial prototype, a proof of concept or a feasibility study that demonstrates the potential to decarbonise one or more aspects of the transport system.

We are seeking projects that demonstrate innovative technological solutions to deliver decarbonisation from well to wheel, including the infrastructure, vehicles, and systems, both in the UK and overseas.

Applicants must demonstrate that the project has the potential to reduce Green House Gas emissions.

We will consider any science or technology that could enhance reduce carbon emissions from any component of the Transport System. For example, this could include:

- Better utilisation or recovery of energy
- Low carbon fuel generation
- Low carbon construction techniques or carbon sequestering materials
- New maritime fuels and propulsion, including ammonia or new wind and new port innovations such as hydrogen bunkering and quay-side power
- Electrification for short-sea and inland shipping
- solutions to support decarbonisation of road and rail freight
- Low carbon last-mile solutions

- Reducing GHG emissions
- Reducing air quality pollutant emissions
- Improved information-sharing around performance of new emission reduction technologies and solutions.
- Supporting Power, Electronics, Machines and Drives (PEMD) technologies which determine how electrical energy can be controlled, converted and conditioned in various sectors, including automotive.
- Supporting advancements in battery performance (including HGVs), across the battery value chain (cell materials, cells, modules and packs), tools to improve efficiency of battery design, manufacture, testing, monitoring, diagnostics and battery recycling capability.
- Development of integrated zero emission technology within a conventional engine for the more difficult-to-decarbonise road transport areas e.g. HGV, large off-highway and agricultural vehicles.
- Development of fuel cell energy efficiency, minimisation of rare-earth material use, reduction in production/manufacturing costs and fuel cells as range extenders.
- Decarbonisation solutions in the HGV sector.
- On-street charging solutions which could include: pop-up chargers, lamp-post chargers and solar powered charging forecourts.
- Wireless technologies which assess the development of smaller, more frequently charged batteries, particularly in the heavily utilised commercial vehicles fleets.
- Development of V2G technology, which allows for electricity stored in electric vehicle batteries to be returned to the grid or local networks.

This is not intended to be a limiting set of criteria, and any innovative use of technology in the decarbonisation of transport will be considered.

The following examples are out of scope for this funding call:

- Capability demonstrations of currently marketed or existing technology. Consideration should be given to not duplicating existing ideas that are being developed if there are a range of options available
- Ideas which impact transport by generating low carbon electricity, such as photovoltaic rooves on train stations

Projects must have an innovative aspect, although this does include products being used in innovative ways, outside of their original intended use.

## Budget and Bidding

Applicants can apply for a project grant of up to £30,000.

The budget available for the decarbonisation funding call is approximately £310,000. We are looking for up to 10 projects; however, the final number of projects funded will depend on the number of quality applications received, value-for-money, and the policy needs of DfT.

Applicants are encouraged to consider the scoring matrix in the development of their proposal to ensure the development of credible bids.

Applicants may only submit one application to the decarbonisation call.

# COVID-19 Recovery

## Background

The recent COVID-19 pandemic has had a major impact on all aspects of life, including transport. Transport plays a key role in ensuring people and businesses can continue to thrive during this uncertain time. There is a necessity to increase active travel options, while ensuring that public transport remains safe and accessible.

## Scope

The department is seeking innovations that seek to aid in the COVID-19 Recovery within the transport sector, looking at transport modes, passengers and staff. These innovations may focus on:

- Ventilation and filtration
- Decontamination
- Remote bio-detection for transport
- Changing public perception about using public transport and encouraging active and outdoor travel alternatives
- Demand management, crowd control and optimising and managing passenger flow
- Managing and monitoring transport capacity
- Transport network resilience
- Increasing and monitoring compliance and safety
- Increasing safety in taxis and private hire vehicles

The following examples are out of scope for this funding call:

- Capability demonstrations of currently marketed or existing technology.

Projects must have an innovative aspect, although this does include products being used in innovative ways, outside of their original intended use.

## Budget and Bidding

Applicants can apply for a project grant of up to £30,000.

The budget available for the decarbonisation funding call is approximately £250,000. We are looking for up to 8 projects; however, the final number of projects funded will depend on the number of quality applications received, value-for-money, and the policy needs of DfT.

Applicants are encouraged to consider the scoring matrix in the development of their proposal to ensure the development of credible bids.

Applicants may only submit one application to the COVID-19 Recovery call.