# HIGHWAYS ENGLAND GRAFFITI FUNDING COMPETITION

Programme Specification

### Abstract
This document outlines the scope of this competition.

## Introduction

Highways England (HE) is seeking to advance promising new products and services that have the potential to both remove and prevent the use of graffiti on the strategic road network. This ambition is being delivered through this funding programme, delivered by the Connected Places Catapult. The programme, launching in May 2021, will award £30k funding to up to 6 organisations to design a trial of their technology on a road network testbed. This activity forms phase 1 of the programme. In phase 2, a selection of organisations from phase 1 will be given the opportunity to turn their design into a physical trial.

This document provides details of the scope of phase 1 of the competition. Applicants are advised to consider these specifications along with the guidance document to ensure the application questions are addressed appropriately.

## Eligibility

This programme provides 100% funding and is open to all UK-based businesses (including micro, small and medium-sized enterprises) and universities. It is designed to support highly innovative research and feasibility projects which will investigate the prevention and removal of graffiti. HE would welcome bids from organisations outside of the transport sector or from a consortium of partners that can see a role for their technologies, tools, and approaches in delivering benefits in this space. (Please note that within a consortium, a lead applicant, who will be the funding recipient, should be identified.)

In order to apply, your organisation must be based in the UK. You must also be willing to work closely with a Tier 1 Supplier.

## Scope

Graffiti causes significant problems across HE's roads and infrastructure. From small 'tags' on road signs, offensive language on public spaces and large writing on bridges and other structures, graffiti causes a public eyesore, disruption to the network and a significant cost to HE.

Project proposals should clearly highlight the innovative and novel aspects of their proposed 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, are also of interest. 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.*

Projects supported through this 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.
- Potential for delivery of tangible transport and/or commercial opportunities for the UK.

Successful solutions will be those that address one or both of the themes outlined below. We are however considering a broad range of innovations to include both direct and indirect benefits/solutions. Traffic management technology, for example, is not directly related to the prevention of graffiti, but is relevant to reducing the costs associated with the removal of graffiti and is therefore within the scope of this challenge.  We are happy to consider any and all innovations that address these challenges, regardless of the level of commercialisation or development, or whether they currently sit within other industries.

Some concepts that fall outside the scope for this competition are anything that:
- Intentionally places graffiti artists in more danger
- Causes damage to HE assets (e.g. some anti-graffiti paints are not breathable and cause damp and damage to brickwork/concrete)
- Could place HE staff or contractors in danger
- Could cause a distraction to motorists (e.g. robotics/drones over working carriage ways)
- Could adversely affect wildlife and biodiversity
- Involves heavy machinery.

## Competition Themes

This programme will comprise of two separate themes, both of which will use the same application form and assessment criteria.

Applicants are welcome to submit separate applications for each theme, if they have technologies that would apply. Please note that applicants making more than one application will need to demonstrate an ability to deliver the projects concurrently.

### Theme 1: Prevention
*Preventing graffiti more effectively from appearing and reappearing on our road network .*

Graffiti is a recurring problem across the Strategic Road Network (SRN) that often reappears within weeks of removal.  People are determined to graffiti; they will put themselves in physical danger over 'live' operating motorways for example.  HE has

experimented with intentionally planting spiky bushes in key entry points to prevent access to motorway structures, but these are quickly removed or trampled by graffiti 'artists' to gain access. Little work has been done to understand graffiti 'artists' or their motivations in the same way as it has been done to understand litterers on the network. In terms of preventing graffiti, behavioural change may play as big a part as advanced anti-graffiti chemical agents.

We are interested in learning about any potential innovative solutions that could either directly (e.g. smart materials, paints, access control etc.) or indirectly (e.g. behavioural interventions) prevent graffiti on the SRN.

## Theme 2: Removal
*We need to find a way to remove existing graffiti that is fast, cheap, safe, eco - friendly, minimally disruptive to the network and not harmful to the infrastructure itself.*

Graffiti removal currently falls into two main categories:
1. Offensive. Should be removed within 24 hours of identification, a target which is clearly challenging to fulfil; and,
2. Non offensive. Less urgent and is generally addressed on a rolling basis when other works are carried out to the relevant structures.

The problem of removing graffiti has two separate challenges:
1. Physical removal of graffiti. Depending on the site of the graffiti, this will often be either jet washed or removed by hand.
   a. Jet washing is generally used for large structures such as bridges and tunnels; it can however cause minor damage to the structures due to the jet pressure and requires a small team to carry out.
   b. Hand removal is generally used on signs. Certain chemical agents cannot always be used as they, for example, remove the reflective coating on signs or the protective coating on wooden barriers. Where chemical agents are unsuitable, it is just manual work and time ('elbow grease').
2. Disruption to the network. Any work taking place above a motorway requires, at a minimum, partial lane closures and in some cases full carriageway closures within the proximity of the works. Costs for traffic controls, diversions and safety measures that are implemented to enable the works can easily run into the tens of thousands of pounds and can cause significant disruption to nearby towns and villages on diverted routes.

*Please note: We would expect the performance requirements for anti-graffiti coatings to be consistent with the BS EN 1504-2 standard.*