Improving railway security and safety: apply for contracts

Network Rail is seeking technological solutions to challenges it faces from fare-dodging, theft and vandalism and in improving and speeding up work to detect structures and vegetation alongside rail lines.

The company that owns the UK's rail network faces issues with trespassers at platform ends and edges trying to evade fares and from people intent on theft or vandalism.

Its traditional process for assessing new or existing structures alongside rail lines to ensure trains can pass by – known as gauging – is also time-consuming and can take years to complete. Improving it could increase safety and help with planning maintenance and introducing new rolling stock.

Network Rail is using the Small Business Research Initiative (SBRI) to support 2 funding competitions for organisations that have innovative ways to meet these challenges.

Competition 1: Detecting and deterring trespassers

Network Rail is looking for physical or technological systems that detect and deter trespass at platform edges at different types of station, from those with no staff to larger ones where staff can respond quickly.

Projects will be expected to research their solution for 3 months before installing it at a station.

Solutions should:

- be able to deter trespass physically, visually or audibly
- be trialled at 2 live stations for 12 months
- be adaptable to different stations
- be capable of being installed at a platform edge without interfering with existing equipment or trains

Competition information

- the competition opened on 2 December 2019, and the deadline for registration is at midday on 22 January 2020
- organisations of any size may apply
- we expect projects to be awarded contracts of between £200,000 and £360,000

Competition 2: Accurately identifying rail-side

structures

This competition to find innovative ways to automate processing of structure gauging for Network Rail is in 2 phases.

Projects will be expected to train the application to identify structures in the first phase.

They can apply for further funding to demonstrate it in a second phase.

Systems must be able to accurately demonstrate:

- identification of existing structures when compared with the existing National Gauging Database
- correct identification of vegetation and masonry
- reading of structure distance and track cant (difference in elevation between inner and outer rail) and curvature
- identification of changes such as removed structures and added structures
- conversion of data from 3D scanning into structural gauging files

Competition information

- the competition opened on 2 December 2019, and the deadline for registration is at midday on 22 January 2020
- organisations of any size can apply
- we expect projects to be awarded contracts of up to £90,000 in phase 1 and up to £360,000 in phase 2