Technology Strategy Board
Driving Innovation

Enabling the digital railway

COMPETITION FOR COLLABORATIVE R&D FUNDING
MARCH 2013

RSSB

Enabling the digital railway
COMPETITION FOR COLLABORATIVE R&D FUNDING

Summary

The Technology Strategy Board and RSSB are to invest up to £5m in collaborative R&D to encourage the use of innovative digital, ICT and satellite application technologies, to address challenges faced by leading rail organisations. This is a joint initiative with the rail industry, which has the support of the cross-industry Technical Strategy Leadership Group (TSLG), and is aligned with the TSLG's Rail Technical Strategy.

The aim of this competition is to identify specific business issues that are affecting the rail industry, and use them as a focus for developing integrated digital solutions and services. We are seeking proposals that apply a range of innovative capabilities in digital, ICT and satellite application technologies to these business issues, working closely with established rail organisations. We will help applicants to engage with rail industry clients and to identify relevant challenges.

Proposals must be collaborative and business-led. In addition to the requirement to include businesses with innovative capabilities, we encourage consortia to consider working in partnership with businesses established in the rail sector and research organisations with expertise in the area.

We expect to fund mainly industrial research projects in which a business partner will generally attract up to 50% public funding for their project costs (60% for SMEs). We expect the total cost of projects to range from £500k to £2m, although we may consider projects outside this range.

This is a two-stage competition that opens for applicants on **25 March 2013**. The deadline for expressions of interest is noon on **15 May 2013**.

A networking event for potential applicants will be held on **25 March 2013**, and a briefing webinar for potential applicants will be held on **9 April 2013**.

Other funding opportunities

We are also launching a thematic call for Knowledge Transfer Partnerships (KTPs) to help improve the performance of businesses working in the rail industry supply chain, through partnership with UK research institutions. The call will open in April. Please see the competitions page on the Technology Strategy Board website for more details: **http://www. innovateuk.org/competitions.ashx**

The rail industry's Enabling Innovation Team (**www.futurerailway.org/eit**) will be launching a complementary competition focused specifically on demonstrating innovations in the area of customer experience. Details will be published on the Future Railway website in March.

Background

The rail industry is currently transforming the way that it manages innovation and introduces new technologies, and a rail innovation fund has been established to stimulate the demonstration and deployment of step-change technologies in the sector. The cross-industry TSLG has recently published its Rail Technical Strategy, a 30-year vision of the technology requirements of the industry. Within the strategy, priority is given to improving the use of data and information and translating them into systems and services that reduce cost, improve operations and benefit customers across the industry.

Technology Strategy Board programmes on themes such as 'big data', trust in digital services and the Internet of Things, as well as the ICTomorrow platform, have established and supported communities of businesses of all sizes with highly innovative digital capabilities. These capabilities are potentially transferable to a number of established industrial sectors, including the transport sector. A number of universities also have strong capabilities in this area, including several groups with in-depth understanding and models that are relevant to rail.

However, there are a number of barriers to innovative businesses working with the rail industry, and this competition aims to help overcome some of them. By focusing on specific business challenges, this competition aims to foster collaboration, and establish trust between rail industry clients and innovative digital businesses, many of whom are of small or medium size.

This area of innovation presents clear business opportunities, to provide services across a global rail market worth around £150bn a year. We aim to support successful consortia in developing products and services for the rail industry in the UK, but with international export potential.

Scope

We invite applications for business-led collaborative R&D projects that apply innovative capabilities to specific rail industry challenges. Proposals must:

- address one or more specific challenges faced by a key rail business client, or 'problem owner'

- combine a range of capabilities in digital, ICT or satellite application technologies, linked to rail expertise, to develop a solution that could yield significant business benefits for the problem owner

- aim to integrate these capabilities into end-to-end proofs-of-concept, to show how the technologies involved can be scaled-up in a flexible way

- include consideration of human behaviour in the potential solution, to ensure that it will be accepted by end users, whether they be rail industry employees or passengers.

The focus of proposals should be on showing how this approach to innovation can help to meet the specific, high-level objectives of the problem owners, which include:

- reducing energy use and carbon emissions

- reducing the cost of infrastructure and operations

- improving capacity and utilisation of existing capacity

- increasing revenues and identifying new revenue opportunities

- further improving safety

- improving the customer experience.

Applicants should clearly identify the challenge or challenges that will form the focus of their projects. Specific challenges will be provided by key stakeholders including Network Rail, London Underground and the train operating companies, shared with potential applicants through a group on _connect, and communicated through collaboration events. Applicants are encouraged to explore these challenges with the problem owners.

While we expect that many applications will be relevant to the primary organisations in the rail industry, such as Network Rail and the train operating companies, other major players in the industry, such as direct suppliers to the primary organisations, may also play the role of problem owner, either within a consortium or in an advisory role.

Consortia should include organisations with a range of innovative capabilities in digital, ICT or satellite application technologies. Such capabilities may involve, but are not limited to, areas such as:

- network capabilities and services, including cloud services

- the Internet of Things

- management and analysis of big data

- modelling and simulation supporting data interpretation

- systems integration with physical assets

- visualisation and decision support

- satellite applications

- business models drawn from the digital and creative industries

- crowd-sourcing and social media

- digital services for engaging customers through feedback or incentives.

Alongside these capabilities, applicants are encouraged to include organisations with knowledge of the rail sector. These may be businesses that are established in the rail industry, or research organisations with expertise that is relevant to rail industry problems.

It is not necessary to include a problem owner as a partner in a consortium, as organisations may prefer to provide support through an advisory role. They may be included, however, where that is appropriate for the organisation concerned.

Where proposals include services that are relevant to customer experience, applicants should ensure that the focus of their proposals is on addressing the specific challenges faced by operating companies in this area, and not on generic service provision.

Looking for partners to work on your project for this competition? Go to _connect: **https://connect. innovateuk.org/web/accelerating-innovation-in-rail1**

Funding allocation and project details

We have allocated up to £5m to fund collaborative R&D projects that meet the criteria outlined in the scope above.

Projects must be business-led and collaborative, and they should last between one and two years. We are primarily seeking to fund industrial research, with a business partner attracting 50% public funding of their project costs (60% for SMEs). Academic partners may be included in consortia, and under new funding rules the presence of a research organisation does not reduce the grant percentage that may be claimed by the business participants. However, the total cost for all research organisations in a project will be capped at 30% of the total project value.

We expect the total cost of projects to range from £500k to £2m. We may consider larger projects, but potential applicants should discuss this with us before making their application.

Successful applicants can attract grant funding towards their eligible project costs. The percentage of costs that we fund varies, depending on the type of research being carried out and the type of organisation involved.

NB the funding rules for projects changed in September 2012. For general guidance on how projects are now funded, see: **http://www. innovateuk.org/competitions/ guidance-for-applicants/funding- rules.ashx**

Application process

This is a two-stage competition that opens for applicants on **25 March 2013**.

Stage 1 – Applicants submit an expression of interest, which is assessed.

Stage 2 – We invite selected applicants to submit an application.

All applicants must first register via our website by noon on **8 May 2013**. The deadline for expressions of interest is noon on **15 May 2013**.

The second stage deadline for invited applications is noon on **24 July 2013**.

Applications are assessed on individual merit by an independent panel of experts.

Key dates

Competition opens	**25 March 2013**
Briefing webinar	**9 April 2013**
Registration deadline	**8 May 2013 noon**
Expressions of interest (EOI) deadline	**15 May 2013 noon**
Stage 2 opens (for invited applicants)	**10 June 2013**
Deadline for invited applications	**24 July 2013 noon**

We may apply a portfolio approach across the rail industry, to ensure that we meet a range of challenges within the sector, subject to applications meeting the required quality threshold.

A networking and consortium-building event will be held in Coventry on **25 March 2013**.

A briefing webinar for applicants will be held on **9 April 2013** to highlight the main features of the competition and explain the application process. Applicants are strongly recommended to participate in this webinar.

More information

To apply for this competition you must first register with us. You can do this by going to the web page for this competition at **www.innovateuk.org** under Competitions. When you register you will get access to all the supporting information you need to read before you apply, including the *Guidance for Applicants* and the application form.

Competition helpline:
0300 321 4357

Email:
competitions@innovateuk.org

Publicity

As part of the application process all applicants are asked to submit a public description of the project. This should adequately describe the project but not disclose any information that may impact on intellectual property, is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded and the public description will be published once the award is confirmed as final. Information about unsuccessful project applications will remain confidential and will not be made public. E-mail pressoffice@tsb.gov.uk with any queries.