RSSB2006 ITT Section 5 SPECIFICATION

Application and training of the TRIZ methodology for analysing key challenges in the rail industry

1. Background and context

RSSB manages the cross-industry R&D programme on behalf of the rail industry. The Knowledge Analysis Team (KAT) supports the R&D programme by gathering information to find answers and solutions that already exist, avoid duplication, and focus the research efforts in the most promising areas.

The team also has horizon scanning and technology watch capabilities. The aspiration of these is to be able to ‘gaze into the future’ and identify future changes and opportunities for the industry. In the past, TRIZ based problem solving and forecasting tools have been used and have delivered valuable outcomes.

All our outputs need to consolidate the information and make it accessible to senior cross-industry groups such as the Technical Strategy Leadership Group.

1. Aims of the work

The intention is to use this work to:

* Apply the TRIZ based problem solving and forecasting approach (or other equally relevant and promising approaches) to deliver conceptual solutions, ranging from short term ones to long term ones, to address the following rail industry challenges:
  + Step free access to and within trains - Optimising boarding/alighting and in-train accessibility for persons with restricted mobility (and all passengers) without impact on dwell times.
  + Technology enablers for ticketless travel - What systems/solutions could be designed using portable, personal electronic devices that are expected to be ubiquitous, to enable true ticketless travel?
* Provide an opportunity for the KAT team and others in analytical roles (between 6 and 8 people in total) to be trained in the analytical approach used and to work alongside the supplier team on the above challenges/opportunities, being able to compare notes at critical points in the process.

1. Deliverables

The supplier is expected to deliver:

* **Two reports, one for each of the challenges stated in section 2, outlining a range of possible** conceptual solutions, including short terms and long term ones. These report should also include a clear logic and rationale of why any solution is suggested and their relevance to rail. RSSB members of staff attending the course might contribute to the creation of these as part of the training and development; the overall responsibility, however, rests with the supplier.
* **Training and associated materials.**

1. Scope of work

**The methodology used**

* Should be grounded in a rational process and underpinned by a robust theoretical foundation.
* Should not require additional specialist training (although additional training to supplement the one provided in this project can be recommended).
* Can be based on existing theories and methods, but the supplier is expected to show creativity in customising / enhancing them to suit our needs.
* Should be fit for validation through a ‘knowledge search and review’ process aided by analytical work, and should be able to deal with uncertainty and lack of information.
* Allows for the traceability of outputs to the process and the logic behind.
* Allows for both substantial development by an analyst with limited domain expertise and enrichment of the process with rail stakeholders and domain specific expertise.
* Should be proportionate and realistic in terms of expert and external stakeholder engagement (ie should only require limited and targeted expert/stakeholder input).
* Should be able to add value and be engaging with senior industry stakeholder groups.

**The application to two industry challenges**

* Should allow engagement with the stakeholders (problem owner reps from RSSB and/or industry) to fully understand the nature of the problem, the current status of any on-going activities and the critical success factors that any proposed solution must meet.
* Should progress the knowledge and experience of the KTA team with the TRIZ or other relevant methodology.

**The training/familiarisation**

* Should be suitable to be delivered to a small group (approx. 6 to 8 participants).
* Should not require prior understanding of the areas or qualifications but some experience of analysis is expected.
* Should be no more than 2 or 3 working days long in total but might be broken down in multiple shorter sessions. This covers the ‘direct delivery’ aspect of the training, with trainees committing some further time to the learning process outside of these sessions.
* Guidance documents and supporting material should be prepared by the supplier.
* RSSB will arrange for the rooms, catering (if required) and other required material at their offices (or another London based location).

1. Expected timescales

The work is expected to begin in January 2015 and be delivered over the following 3 to 4 months.

1. Supplier competencies required

The suppliers are expected to demonstrate through their bids:

* A thorough understanding of horizon scanning and related methodologies together with an understanding of innovation management and how critical and disruptive technologies emerge.
* Experience of applying the TRIZ methodology or another comparable methodology to support public and private sector companies in thinking about future challenges and opportunities.
* Experience of providing training courses and briefings.
* Evidence of having understood our needs and being client focussed.
* Creativity and pragmatism in the approach proposed.

1. Mode of working and stakeholder engagement

Once a supplier is appointed, they will liaise with RSSB via the appointed project manager within the Knowledge Analysis team.

The suppliers are requested to explicitly highlight risks to success delivery and critical success factors in their bids, and plans/actions to mitigate and ensure achievement respectively.

1. Selection and award criteria

Selection criteria

| **Heading** | **Specific question(s)** | **Evaluation Criteria** |
| --- | --- | --- |
| S1 Experience of the supplier in horizon scanning type activities | Could you provide a short description of two projects in which you delivered horizon scanning type activities to clients over the last two years? Please provide a short explanation on why they are relevant to our needs. | Pass/Fail |
| S2 Experience of the organisation with delivering training | Could you provide a short description of two training activities you have delivered to clients over the last two years? Please provide a short explanation on why they are relevant to our needs. | Pass/Fail |

Award criteria

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| --- | --- | --- | --- |
| **Heading** | **Specific question(s)** | **Evaluation Criteria** | **Weight** |
| A1 Robust methodology and ability to apply them to client’s needs | What is your proposed horizon scanning methodology? And how will it be used in practice to deliver potential short and long term solutions for the two challenges we want this piece of work to focus on? | The Tenderer’s response shows that it:   * Has understood the requirements * Has proposed a credible and sound methodology * Has described how this will be applied to the specific challenges the work is set up to cover | 25% |
| A2 Clear and innovative proposal on how the training can be delivered and how participants will be involved | What is your proposal with regards to the delivering of the training? How do you propose to engage the trainees “outside the classroom”? How do you propose to engage the trainees in the two challenges you have been asked to analyse? | The Tenderer’s response includes:   * Sound and innovative proposal to get trainees making the most of the “classroom time” * Description of how the outcomes will be successfully delivered | 25% |
| A3 Project Delivery: resources, budget and risk management | Who will be part of the delivery team? It is not necessary to produce bespoke CVs but it is necessary to clearly identify every team member’s role, their relevant experience and contribution to delivery.  Provide adequate allocation of appropriate resources against deliverables.  How will you work with RSSB to ensure the quality and the content of the deliverables is fit for purpose?  How it will manage risks to delivering the project? | The Tenderer’s response shows that it   * Has identified relevant individuals to deliver the work and that the overall mix of skills covered is adequate * Has provided a credible plan for delivering successful outcomes to time, quality and cost * Has identified appropriate ways to engage with RSSB * Has identified risks and proposed to effective management and mitigation | 20% |
| A4 Cost of project | Please provide a cost for the project | * The tender with the lowest total cost will receive 100% of the available weighted score (30%).   Other Tenderer’s tenders will receive a pro-rated relative to the lowest cost according to the following formula:  Score of other tender = lowest tender total cost / other tender total cost x 100%. | 30% |