INTRODUCTION

There are almost two million people in the UK living with a visual impairment, of which 360,000 are registered as blind or partially sighted. In addition, more than ten million people experience some form of hearing loss, with more than 800,000 being profoundly deaf.

Bus travel plays a vital role in enabling disabled people, including those who have visual or hearing impairments, to live more independent lives.

Nevertheless, 180,000 blind or partially sighted people rarely leave home alone because of the barriers they may face whilst travelling on buses, such as not being able to know whether they are getting on the right bus, or when their stop is coming up. For hearing-impaired people, there can be communication barriers from fellow passengers or the bus driver, especially if the bus is noisy. These experiences can prevent many passengers with visual or hearing impairments from using buses, which in turn impacts on their opportunities for getting to work, socialising with friends, and being independent.

Technology has huge potential to remove the barriers faced by sensory impaired people on public transport – enabling them to get out and about without having to depend on support from others.

Audio and visual information systems (including audible announcements of the current stop, next stop, final destination or diversions) available on board some buses and coach services across the UK, can therefore have a big impact on the lives of visually and hearing impaired people. On board journey information also improves the experience for all passengers who may be travelling on unfamiliar routes. However, for bus/coach operators, product installation and maintenance costs are currently a barrier to making those systems more widely available on buses.

THE CHALLENGE

The 'All Aboard' competition challenges students aged between 14-18 years old to come up with alternative, innovative solutions to provide accessible information on buses to those with visual or hearing impairments.

These proposals should:

- Demonstrate an understanding of the current barriers to using the bus network for people who have a visual or hearing impairments.

- Keep in mind the current assistive technology operating on buses, while also looking into new or emerging technologies.

- Aim to be innovative, cost effective and easy to install on the existing bus fleet.

- Be created for use on the bus itself and not rely on individual personal devices that the passengers might carry (such as mobile phone apps).

Department for Transport · The Big Bang UK Young Scientists & Engineers Fair · The Accessible Britain Challenge · CATAPULT Transport Systems

HOW TO ENTER?

Entries can be individual or as a team of up to 5 students. Students need to explain their idea with either:

- A 3-page proposal covering:

  1. Design illustrations with an indication of key features and the technology used.

  2. A description of how the design works and meets the assessment criteria.

  3. A written description or two storyboards (for one visually and one hearing-impaired user) on a route of their choice using the technology proposed.

Or

- A short film covering these points (maximum duration 7 minutes).

The submission deadline will be 13th February 2015 and entries will be assessed based on the following criteria;

- **Effectiveness for visually-impaired people** or how useful the solution is to provide information to visually-impaired passengers, easy to use and reliable.

- **Effectiveness for hearing-impaired people** or how useful the solution is to provide information to hearing-impaired passengers, easy to use and reliable.

- The proposed solution is **innovative**. This could be because it takes a different approach than existing solutions, achieves significant cost reductions, uses a new technology or uses technology from another domain.

- The proposed solution is **cost effective**. For reference, existing solutions cost in the region of £2,500-£3,500 per bus.

- **Presentation**, clarity and quality of the proposal.
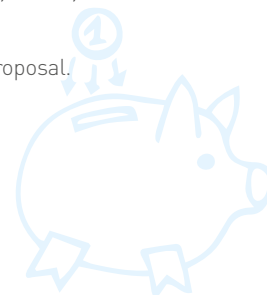
We will then look to shortlist five finalists and invite them to present their idea to an expert judging panel on the 13th March at the Big Bang Fair 2015.

The Big Bang Fair is the largest celebration of engineering and science for young people in the UK and the finalists work will be exhibited at the fair.

The winning idea will be announced at the Big Bang Fair along with details of stage two of the project.

Department for Transport

The Big Bang
UK Young Scientists & Engineers Fair

The Accessible Britain Challenge

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WWW.THEALLABOARDCOMPETITION.CO.UK

WHAT IS THE PRIZE?

The competition winner(s) will receive a cash prize worth £1,000, have the chance to see their idea turned into a product and go on a tour of the Houses of Parliament with the Minister of State for Transport, Baroness Susan Kramer.

Runners up will be given the opportunity to spend a day at Transport Systems Catapult Imovation Centre in Milton Keynes.

WHAT IS STAGE 2 OF THE COMPETITION?

At stage two, the Transport Systems Catapult will look to introduce small and medium size enterprises (SMEs) to develop the winning idea into a prototype.

This development stage will give the winning student(s) the opportunity to meet with the SME who will take their idea forward into an early development stage product. Further details of stage two will be announced at the Big Bang Fair.

SOUNDS GREAT! WHERE DO I START?

Read the section about the rules of the competition and once you are happy with them, ideas can start flowing!

www.theallaboardcompetition.co.uk