



TEACHER'S NOTES

These Teacher's Notes provide further information to teachers and any other school staff working with students on the 'All Aboard' technology competition activities. Outlined below are an explanation on why this competition may be of interest to students, resources explaining who the competition is designed to help and details of existing technology currently used on buses. In addition, details are provided on how teachers can assist pupils with creating and submitting a successful proposal.

These notes should be read in conjunction with the competition brief.

WHY IS THIS COMPETITION INTERESTING?

- It allows young people to work on finding a solution to a real transport accessibility problem, just as industry professionals would
- It sparks creativity, develops problem-solving and teamwork skills (if undertaken as part of a team)
- It engages different types of students and has the potential to become a cross-curricular project
- It encompasses elements of art, design, technology, computing and sociology
- It provides an opportunity for pupils to assist and interact with members of society with a visual or hearing impairment at a local level but also within the context of wider national initiatives such as the Accessible Britain Challenge
- It highlights the barriers that passengers with disabilities face when using public transport every day
- It has the potential to improve people's lives!

INTRODUCING THE CHALLENGE

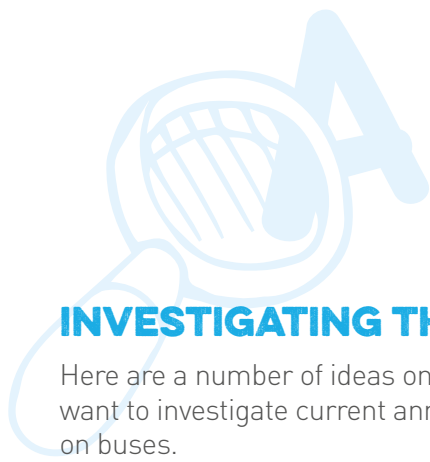
Here are a number of ideas and resources that can help to introduce the context of the challenge

- Firstly, it might be useful for students to have a feel for how many people would benefit from a solution by checking the relevant statistics below.
Blindness and visual impairment: <http://www.rnib.org.uk/sites/default/files/Sight%20loss%20stats%20postcard.pdf>
Deafness and hearing loss: <http://www.actiononhearingloss.org.uk/your-hearing/about-deafness-and-hearing-loss/statistics.aspx>
- Students may also find it useful to watch videos explaining the experience of using the bus network with a disability and learn about current campaigns and research carried out by charities on this subject.
Guide Dogs research: <http://www.guidedogs.org.uk/supportus/campaigns/talkingbuses/talking-buses-research#.VCCB7vldWT8>
- In order to gain a wider perspective on the Government's policy on disability, students can explore the Accessible Britain challenge, encouraging communities to be inclusive and accessible.

The good practice examples have a section on Transport and Mobility <https://www.gov.uk/accessiblebritain>

- It may also be useful to contact local disability organisations or charities and arrange for someone to visit the school, or for a trip out of the classroom
- You may also want to encourage pupils to reflect on:
 - The problems that visually and hearing-impaired people face in everyday life
 - Their own experience of using buses (Does the bus have audio-visual technology on board? How is the experience of travelling on an unfamiliar route? Is it easy to miss the stop when the bus is on diversion? How about when it's dark, raining or the windows are steamy?)
 - The difficulties experienced by older people who might be living with sight and/or hearing loss





INVESTIGATING THE CURRENT TECHNOLOGY

Here are a number of ideas on how students might want to investigate current announcement technology on buses.

- Use the internet to research technology on buses in certain cities or areas of the country e.g. the London's buses are fitted with iBus
- Explore assistive technology for visual impairments
<https://www.actionforblindpeople.org.uk/resources/practical-advice/assistive-technology-resources/types-of-assistive-technology/assistive-technology-visual-impairments/>
- Explore assistive technology for hearing impairments
<https://www.actionforblindpeople.org.uk/resources/practical-advice/assistive-technology-resources/types-of-assistive-technology/assistive-technology-hearing-impairments/>
- Explore technology used in other means of transport (e.g. rail, coaches, aviation) or other environments
- Get students thinking about what works best, what doesn't work well, what could be improved?

COME UP WITH IDEAS

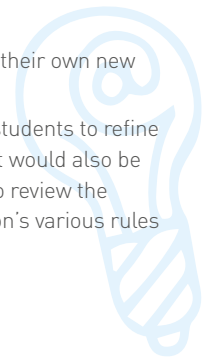
Once students have gathered the necessary background information around the competition, it may be useful to revisit the competition brief with them and identify what characteristics their proposed solution needs to have. More detailed information on this can be found in the competition description and the assessment criteria.

It's now time to get creative!

Encourage students to review their research on existing technology and perhaps look into incorporating or adapting it to fit with their own proposals. Even more importantly, students should be encouraged to

investigate new and emerging technologies, create their own new concepts, etc.

Once an idea has begun to take shape, encourage students to refine their proposal until everyone in the team is happy. It would also be useful for teachers to get involved where possible to review the overall design and ensure it satisfies the competition's various rules and requirements.



WORK ON THE PROPOSAL

Entries can be individual or by teams 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 illustrating a bus journey (for one visually and one hearing-impaired user) on a route of their choice using the technology proposed.

Or

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

