



# **How do we sell engineering as a degree?**

## **Overview of Big Bang and Tomorrow's Engineers programs**

**Jeremy Buckle- Event Director- The Big Bang Fair**

**Laura Chastney- Programme Manager -Tomorrows' Engineers**

# Engineering UK



EngineeringUK is an independent organisation that promotes the vital role of engineers, engineering and technology in our society and inspires people at all levels to pursue careers in engineering.

EngineeringUK partners business and industry, Government and the wider science and engineering community: producing evidence on the state of engineering; and inspiring young people to choose a career in engineering, matching employers' demand for skills.

**[www.EngineeringUK.com](http://www.EngineeringUK.com)**

# **Understanding of Engineering Careers Advice**

## **EngineeringUK 2012 Engineers and Engineering Brand Monitor**

- **Maths and physics were considered to be the most important subjects to study in order to become an engineer**
- **The majority of teachers stated that some of their students have considered a career in engineering in the past year**
- **The majority of teachers felt confident giving advice about engineering careers**
- **Careers advisers were most likely to be consulted, and their advice be acted upon, by 12-16 year olds when looking to make career choices**

# The Perception of Engineering Pathways

- The desirability of engineering as a career has increased for 12-16 year olds and teachers
- A career in engineering was seen by adults as desirable because *'it is a good profession / career' and is 'well paid'*
- The majority of adults would recommend a career in engineering to family and friends
- Teachers were most likely to recommend a career in engineering to 'problem solvers'

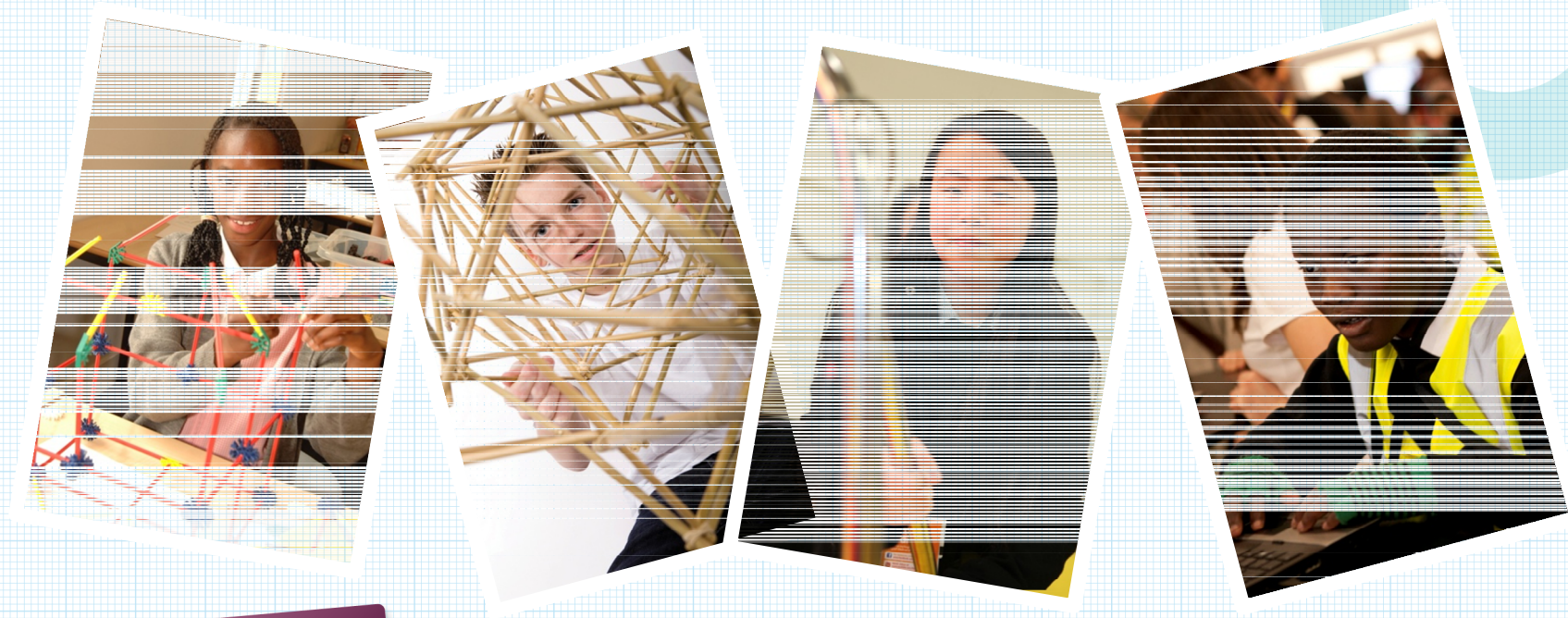
# The Perception of Engineering Pathways

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# Tomorrow's Engineers

Engineering Professors Council

7<sup>th</sup> November 2012



Tomorrow's  
Engineers

[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

# Tomorrow's Engineers

Tomorrow's Engineers is a **careers** programme led by EngineeringUK and the Royal Academy of Engineering, delivered through a broad **partnership** between business and industry, the engineering profession, activity delivery organisations and schools working together to **inspire learners.**

The logo for Tomorrow's Engineers is a dark purple, rounded rectangular shape with a white border, resembling a sticker or a speech bubble. It is positioned in the bottom left corner of the slide. The text "Tomorrow's Engineers" is written in white, bold, sans-serif font, with "Tomorrow's" on the top line and "Engineers" on the bottom line.

Tomorrow's  
Engineers

[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

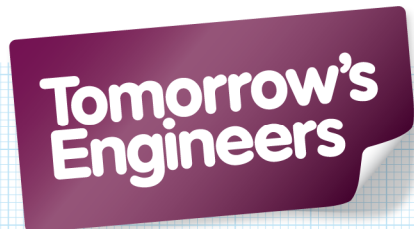
# Objectives

Our long-term objectives:

- Improve awareness of engineering
- Enthuse young people about engineering and careers
- Encourage young people to make subject choice that keep their options open

To achieve this:

- Improve the effectiveness and impact of the work being undertaken with partners across business and industry, the professional engineering institutions and the delivery partners





# Programme Strategy

## Tomorrow's Engineers

### Community of Effective Practice

Careers Information and Awareness

Core  
Growth

Regional Growth

Projects

STEM Ambassador Engagement

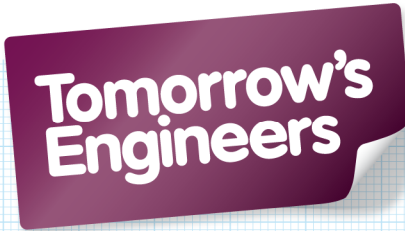
Evaluation Strategy

Tomorrow's Engineers Brand Awareness

Tomorrow's  
Engineers

[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

# Working in partnership with



[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

# Tomorrow's Engineers Projects

## All TE projects:

- 35k in 2011-12
- 55k in 2012-13
- 100k annually by 2016

## Midlands Project:

- Seven engineering companies
- 70 schools
- 10,000 pupils



**Tomorrow's  
Engineers**

# Careers Materials

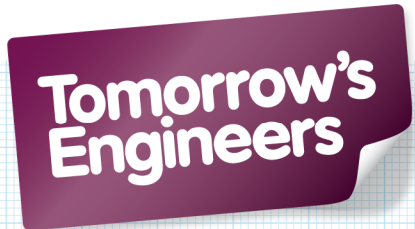


Young Persons Leaflet

Postcards



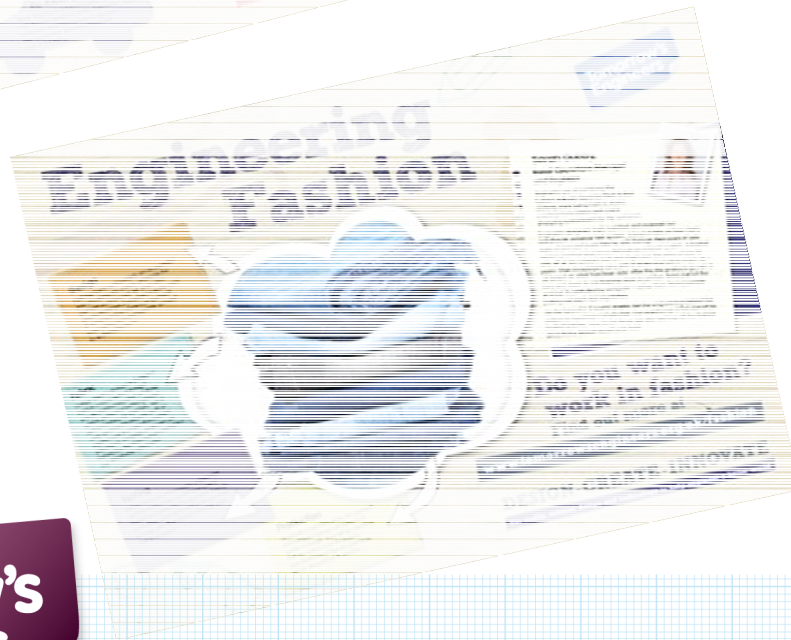
A2 Poster



# Careers Materials

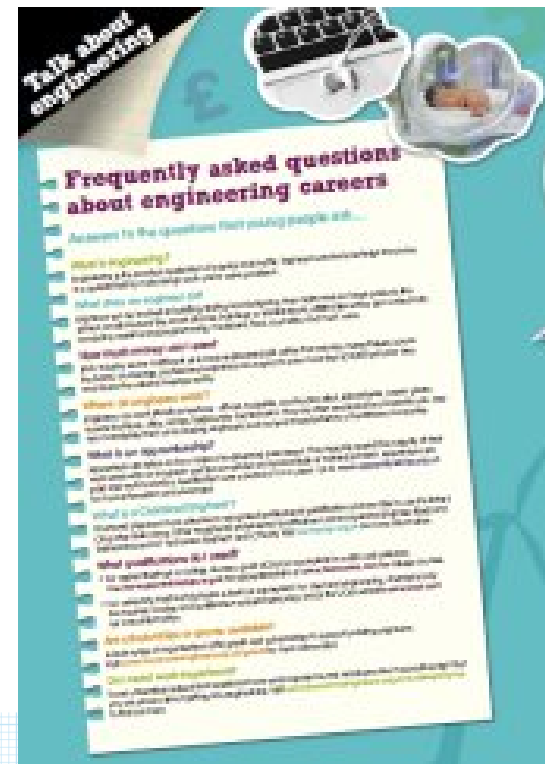
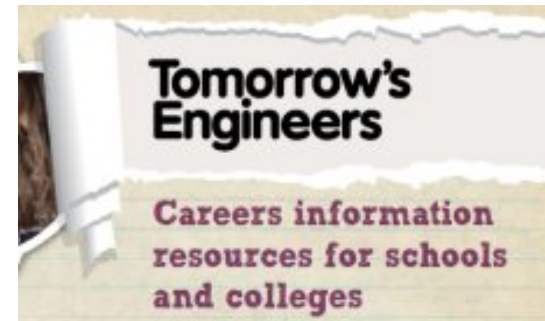


A2 Poster



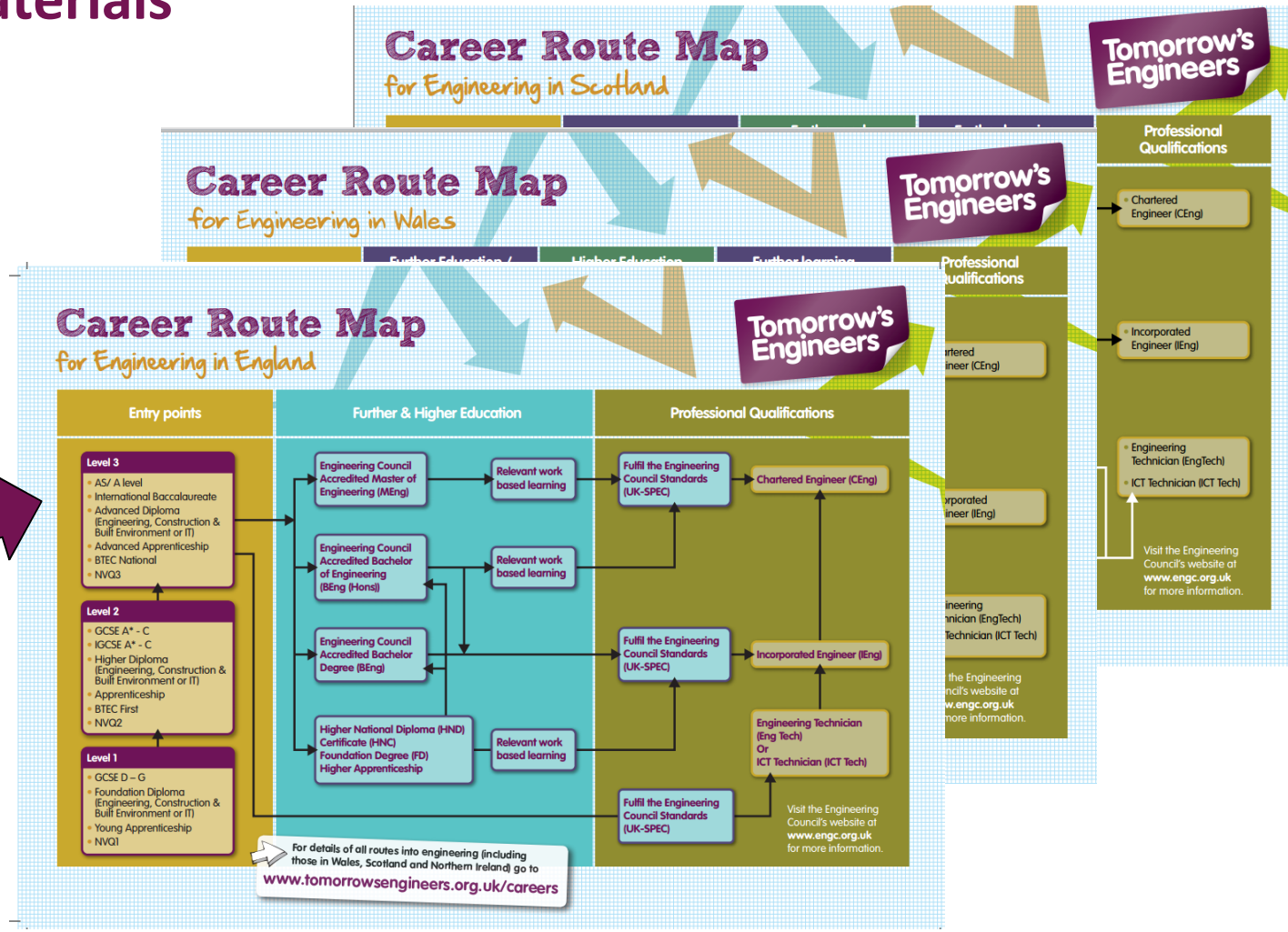
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Tomorrow's Engineers



# Careers Materials

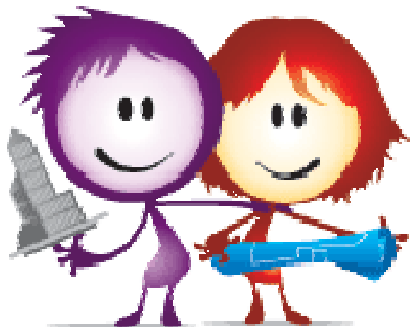
Careers Route Maps



Tomorrow's Engineers

## Tomorrow's Engineers Website

- [www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)
- Resource for teacher, pupils, parents and STEM Ambassadors
- Careers materials
- Get Involved
- Whose Crew Are You?



Tomorrow's  
Engineers

[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

# Get Involved

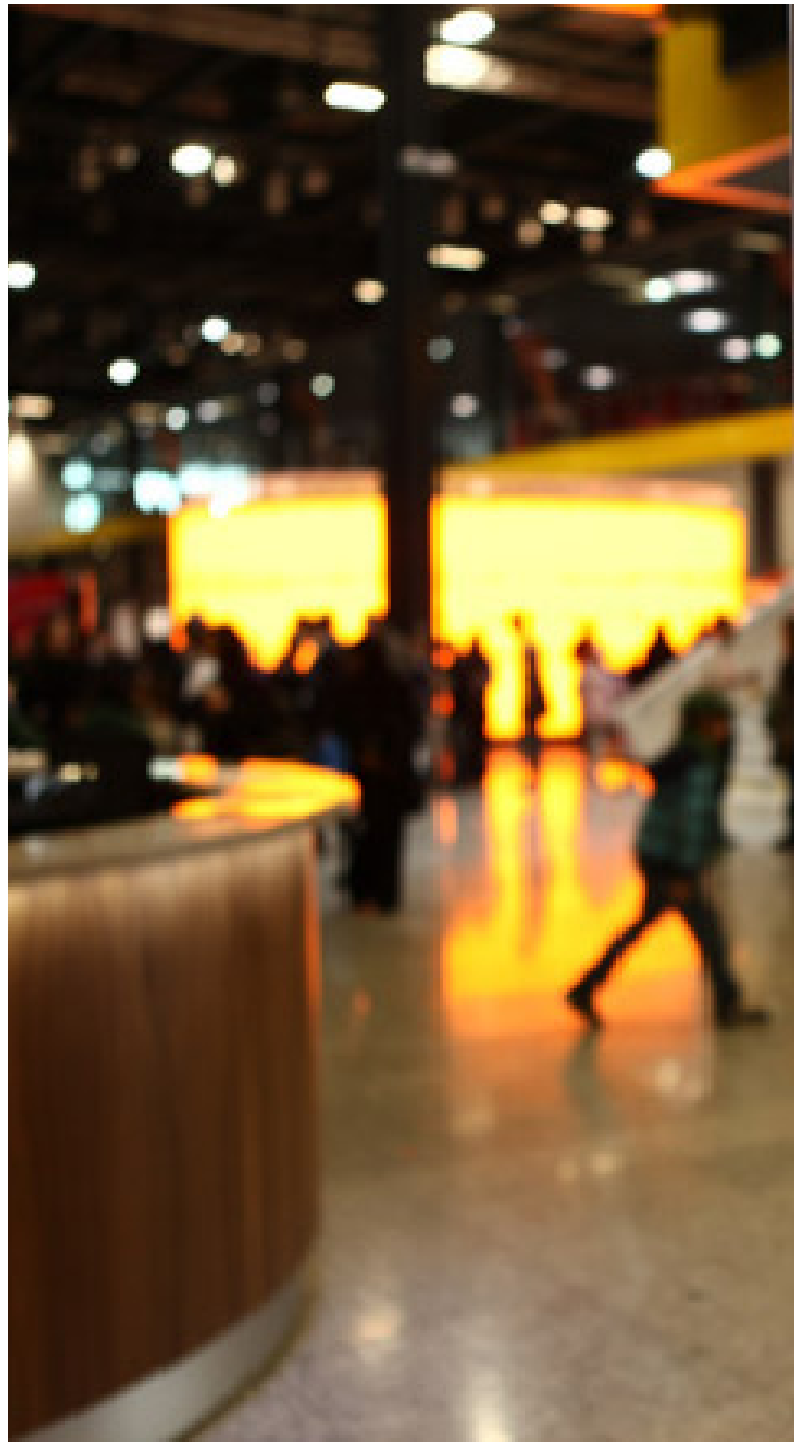
- Careers Resources
- Website
- Activities

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Tomorrow's  
Engineers

[www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)







# The Big Bang

UK Young Scientists & Engineers Fair

## London 2009

(QEII Conference Centre)

**6,500 visitors**

5,000 young people  
48 Organisations involved

## Manchester 2010

(Manchester Central)

**23,545 visitors**

15,000 young people  
100 Organisations  
involved

## London 2011

(ICC London ExCeL)

**29,000 visitors**

Over 25,000 young people,  
their parents and teachers...

**Over 50 Workshops and shows**

BBC's Bang Goes The Theory &  
Brainiac Live!,

**Over 45 sponsors**

BAE Systems, Shell, Siemens, IBM,  
Rolls-Royce, etc

**High Profile Supporters**

Professor Brian Cox  
The Rt.Honourable Vince Cable MP  
Sir John Beddington

## Birmingham 2012

**56,287 visitors**

Over 45 000 young people,  
their parents and teachers...

180 Organisations involved

**Over 120 Workshops and Shows**

BBC's Bang Goes the Theory &  
Brainiac Live!

**Over 45 sponsors**

BAE Systems, Shell, Siemens, IBM,  
Rolls-Royce, etc

**High Profile Supporters**

The Rt. Honourable David Willets MP  
Sir John Beddington



# The Big Bang

UK Young Scientists & Engineers Fair

## Truly representing the UK STEM Community

ABB Abbott (CREST Sponsor) ActionDog CIC Airbus Alton Towers Resort Animation Nation Arcola Energy Aston Pharmacy School Aston University Astrium Autodesk BAA Heathrow BAE Systems Balfour Beatty Barts and the London School of Medicine and Dentistry BBC Being 747 Big Bang Education Biological & Medicinal Chemistry Sector (CREST Sponsor) Birmingham City Council Birmingham City University, School of Computing, Telecommunications and Networks Birmingham Metropolitan College BITA Academy - City of Bristol College Bloodhound BP (CREST Sponsor) British Gas British Psychological Society British Science Association British Society for Immunology and Society of Microbiology Cancer UK Centre for Alternative Technology Centrica Classroom Medics Cockcroft Institute Conserve Me Cummins Deafness Research UK Department for Business, Innovation and Skills Department for Education (CREST sponsor) Design & Technology Association Double Negative Visual Effects E.ON EDF Energy EDT Ellen Macarthur Foundation Emap (Education Show organisers) Engineering in Motion - (F1 In Schools) and (4x4 In Schools) Engineering in Schools EngineeringUK Exscitec Extreme Fliers FESTO FIRST LEGO Education Food and Drink Federation Frazer Nash Gastronom Live! Gatsby Foundation General Dynamics Goodrich Google Greenpower GSK Harper Adams University HE STEM Programme (Birmingham) Herschel Space Observatory IBM ICE IET Ignite Imperial College London Innovation First - (VEX Robotics) Inspirational Science Theatre Company Inspiring Futures Institute of Ergonomics and Human Factors Institute of Food Research Institute of Mathematics and its Applications Institute of Physics Institute of Physics and Engineering in Medicine Intellectual Property Office Jaguar Landrover JCB Lancaster University Lockheed Martin Lombard London International Youth Science Forum L'Oreal M4 Entertainment Medical Research Council Medical Research Council Toxicology Unit Microsoft Mindsets Millenium Mathematics Projects National Grid National Skills Academy for Power National Space Centre National STEM Centre Nestle NHS Nottingham Trent University Nuffield Foundation Pearson Publishing PSI - Statisticians in the Pharmaceutical Industry Queen Mary University of London Queen Mary University of London - School of Engineering and Materials Science Queen Mary University of London - School of Physics and Astronomy Research Councils UK RNLI Rolls-Royce Rose Bruford College of Theatre & Performance Royal Academy of Engineering Royal Institution Royal Observatory Greenwich Saudi Aramco Science & Technology Facilities Council Science Junkie Science Made Simple Science Museum Sea Life Centre, Birmingham SELEX Sellafield Shell Sideways Theatre Company Siemens Society for Applied Microbiology Society for General Microbiology Society of Biology Society of Environmental Engineers Thales The Engineering Construction Industry Training Board (ECITB) The Goldsmiths' Company (Prize Sponsor) The James Dyson Foundation The Lloyds Register Educational Trust The NEC, Birmingham The Open University The Physiological Society The RAF The Royal Commission for the Exhibition of 1851 The Royal Navy The Science Council The Smallpeice Trust The Queen Elizabeth Prize for Engineering TWI Twig UK Space Agency University College London University of Bath University of Birmingham University of Kent, School of Engineering and Digital Arts University of Leicester University of Nottingham University of Plymouth University of Surrey Urenco Wellcome Trust - In the Zone Olympic Roadshow Wildscreen Y Touring Theatre Company Young Engineers British Geological Survey Cardiff University Coventry University Durham University Engineering Council IChemE Kings College London Loughborough University Design School Mitsubishi Fork Trucks UK Parsons Brinkerhoff Royal Chemistry Society Royal Observatory Edinburgh Rutherford Appleton Laboratory Severn Trent Water STEMNET University of Bedfordshire University of Central Lancashire University of Essex University of Warwick University of Wolverhampton

## **Our 2020 Vision:**

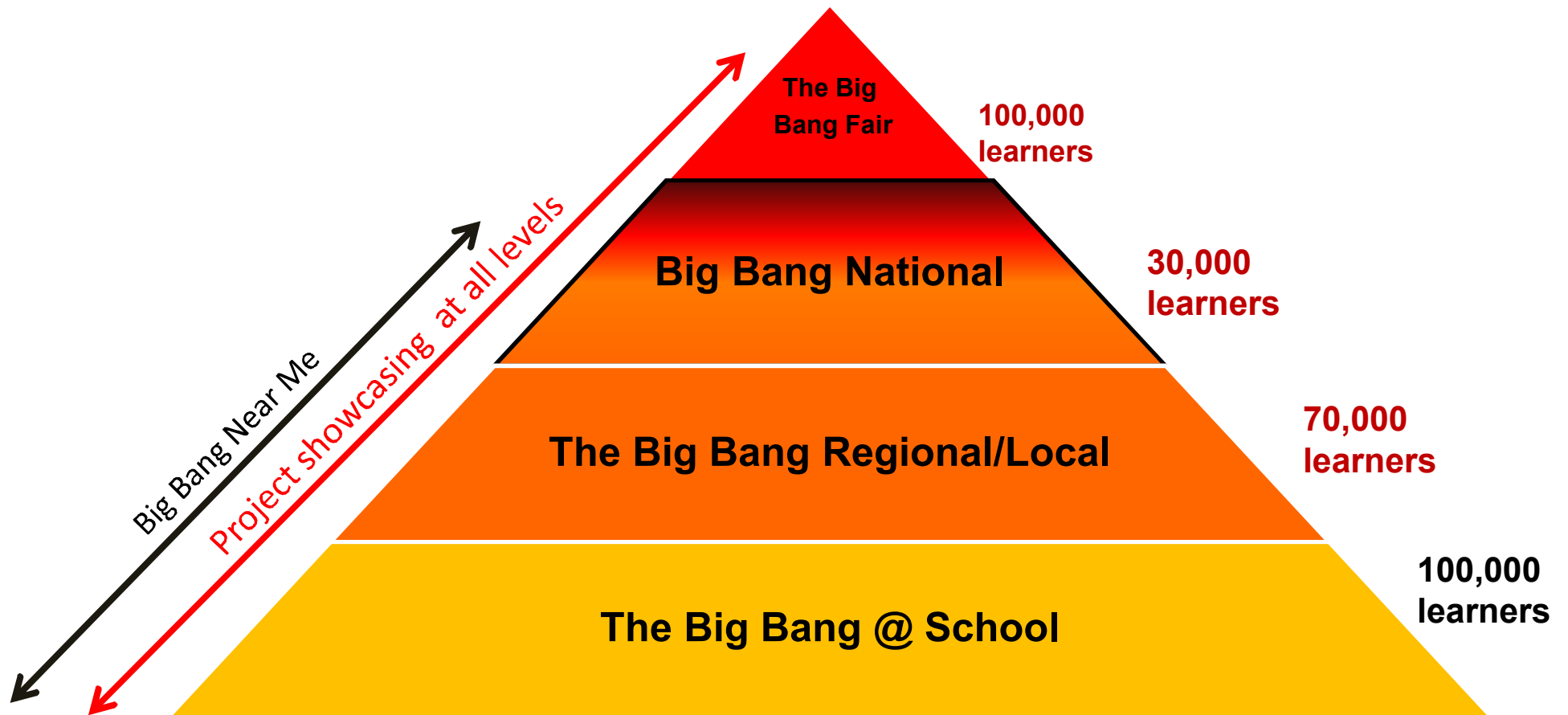
**By 2020 every young person in secondary school in the UK will be directly involved or know someone directly involved in The Big Bang programme.**



# The Big Bang

UK Young Scientists & Engineers Fair

## The Big Bang Programme levels of engagement



Market size  
3 nations, 100,000 per year group  
66 cities

4115 UK maintained secondary schools  
approx. 650,000 UK secondary school year group



# The Big Bang

UK Young Scientists & Engineers Fair

**Date:** 14-17<sup>th</sup> March at London's ExCeL Centre

**Target Attendance:** 65,000 people on site

**Space:** 30,000 sqm with 20,000sqm show floor

**Content:**

- 8 Zones
- 1 Headline Show: Guinness World Records: Science Live!
- 64 theatre show sessions across all three days
- 60 interactive activity stands
- 80 Corporate, Stakeholder and Competition Sponsors
- 350 National Science & Engineering Competition finalists
- 350 STEM Club Showcase participants
- 180 organisations from across the STEM Community

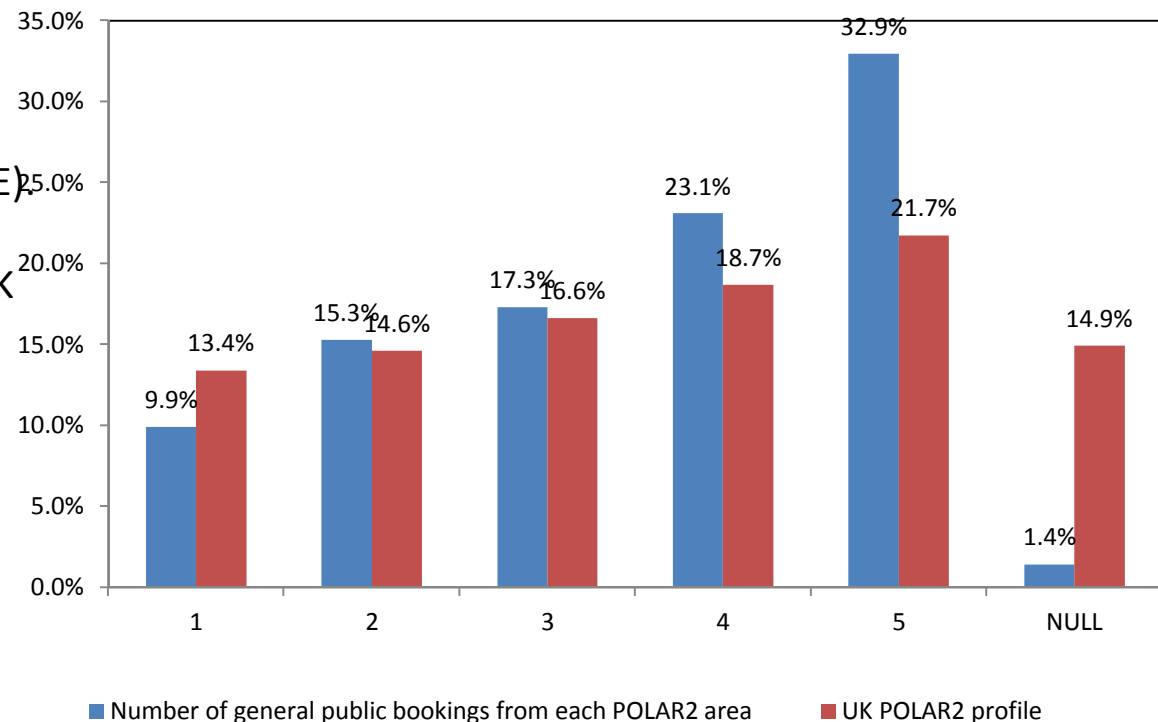
**Why use The Big Bang to recruit engineers?**



## Profile of General Public Bookings based on postcode

- POLAR2 is based on a measure of HE participation for those aged 18-19 in academic years 2000/01-2005/06. The POLAR2 data is broken down into five quartiles, in quartile 1 fewer than one in five young people enter HE, compared with over half in quartile 5.
- Nearly a third of general public bookings at The Big Bang 2012 came from quartile 5 (the group most likely to go onto HE). Quartile 5 represents just over a fifth (21.7%) of all UK POLAR2 postcodes.
- At the other end of the scale, one in ten (9.9%) bookings came from quartile 1 (least likely to go onto HE).
- Quartile 1 makes up 13.4% of all UK postcodes.

Table 1:  
Profile of general public bookings by  
POLAR2 code







# The Big Bang

UK Young Scientists & Engineers Fair

## Top Line Evaluation of 2012 Fair

The Big Bang Fair proved to be highly effective again with:

- **98.5%** of attendees finding The Fair ‘quite’ or ‘very enjoyable’.
- **93.5%** of attendees stating The Fair ‘met’ or ‘exceeded’ expectations with **42.2%** saying The Fair ‘exceeded expectations’.
- **92.2%** of attendees said they were likely to tell their friends to come next year with **48.2%** stating they were ‘very likely’ to recommend The Fair.

## Engineers & Engineering Brand Monitor 2011

- 26% of young people felt a career in engineering was desirable, the response increased to 51% for those who attended The Big Bang Fair.



# The Big Bang

UK Young Scientists & Engineers Fair

## Engagement with The Fair

- **Exhibitors** [www.thebigbangfair.co.uk/sponsors](http://www.thebigbangfair.co.uk/sponsors)

Sponsorship opportunities are now available on a first come first served basis. For more information- Jeremy Buckle [jbuckle@engineeringuk.com](mailto:jbuckle@engineeringuk.com)

- **Volunteer** [www.thebigbangfair.co.uk/volunteers](http://www.thebigbangfair.co.uk/volunteers)

Call for Volunteers open- allows any person within the STEM Community to get involved and volunteer in a wide variety of roles. For more information- Georgina Goodman- [kmontgomery@engineeringuk.com](mailto:kmontgomery@engineeringuk.com)