



awards 2015



Monday 22nd June 2015
The Royal Society, London

What they say...

"We have over 130 young women involved in extra-curricular STEM activities! TeenTech has a MAJOR part to play in this. They love TeenTech because they can discuss ideas and work collaboratively, letting their imaginations run wild without the restrictions that occur in lessons"

- Liz Painter, Assistant Curriculum Leader, Sandbach High School

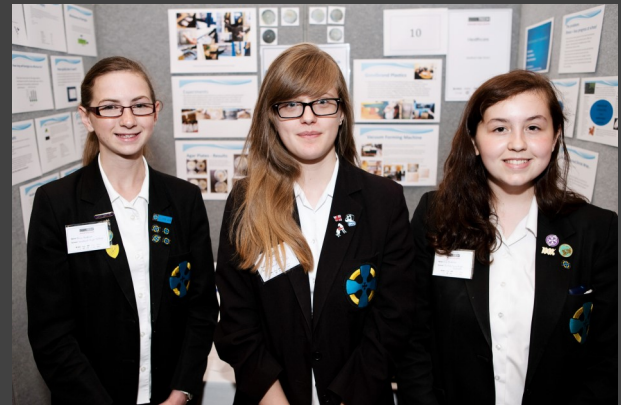
"The best part about the project was coming up with our own ideas. We started off with a small sketch and now we have a product design, have made a brand and marketed it. We have learned a lot about science and technology and want to broaden our knowledge in product design.

As a group, we worked efficiently and with independence. We all got on with the mighty task and Prestige Ltd symbolises our independence and resilience"

- Students, Isaac Newton Academy

"The opportunity to work with a range of engineers from undergraduates, commercial companies and the military both UK and international (USA) has been overwhelming. The amount of backing from local companies to international ones has been astounding."

- Students, Alton Convent School, Hampshire



"Whilst working on our project, I've really enjoyed finding out more about the technology we've used. It's amazing to see how such a simple idea can become a product that could really help people. I feel this competition has helped me see I am just as good at the technology based subjects as the written ones."

"I have learned about exothermic reactions and the technology used to build similar products that produce heat which is also helping in science and maths."

- Students, Impington Village College



"We have expanded our teamwork skills and worked more independently while contacting outside companies that could advise us on our project. We also learnt and became more aware of people with special needs, and how technology can help them to take part in activities that we take for granted. We have been inspired to develop more technology to help other people"

- Students Sandbach High School

"I attended TeenTech last year and since then it has completely changed my life. My confidence has grown and my outlook on technology and the jobs associated with it has completely changed. I have started programming with a Raspberry Pi and taken Computer Science at GCSE"

- Student, Loreto Grammar School

"We had lots of fun during our time at TeenTech and picked lots of new skills. We developed our ability to problem solve, as we came across many hurdles along the way, such as the deciding on designs for the roof and guttering. We also learned how to deal with constructive criticism. At first we were upset as we thought others were just being rude, but now we understand that they tried to help us.. We would often argue heatedly on ideas. Now we are a lot calmer about the way we put our points across."

- Students, Bethnal Green Academy

"We have enjoyed taking a break from the normal curriculum allowing our knowledge to expand, having a taste of future work, and letting our imagination flow. We have also enjoyed working as a team as we believe our skills compliment each other's, bringing out the best."

- Students, Okehampton College

"We have learnt the importance of time keeping and organisation while putting our creativity to the test and thinking outside the box. Most importantly we have learnt how to communicate better with each other, Collaborating with a lecturer in sport science and an app developer allowed us to broaden our ideas, and gave us more knowledge on app development, coding, GPS facilities, and existent apps that could act as our competitors. Developing a questionnaire also improved our data analysis skills."

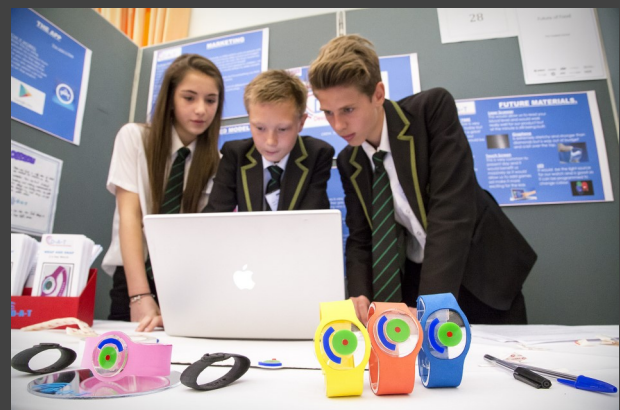
- Students, Beaumont School

"Over the past two years TeenTech has had an overwhelming impact on how our subject is viewed by both staff and pupils in the school.

Their perception of our department (Design and Technology) has changed from somewhere pupils build projects from wood and metal and do engineering drawing, to a department who encourage pupils to be innovative by looking at technology and how things work, to help meet the needs of a particular market group.

They are beginning to view us as an Engineering subject once again and it has had a direct effect on the uptake of our subject in the senior school ... Our pupils have seen they have what it takes to become an engineer and where our subject fits in helping them achieve this. They have reached this conclusion through all of their experiences throughout the (TeenTech) process and I think that one of the most important things is that they have enjoyed every moment of it."

- Karen Kelley, Teacher, Scotland



"We are very proud of our achievements so far and are incredibly grateful for this chance to make our mark. We have spoken to so many incredible people, learnt so many fascinating things from this experience, and have had a lot of fun along the way. It was stressful at times, but we worked on to create something we are all delighted with. Through the project we have learnt a fair amount of programming, and have grown to appreciate the amount of work that goes into creating everything around us."

- Students, Loughborough High

About TeenTech

A very warm welcome to the TeenTech Awards and to Royal Society which has played a part in some of the most fundamental, significant, and life-changing discoveries in scientific history. Many congratulations to every team who has reached the final. You are the innovators, engineers and designers of the future.

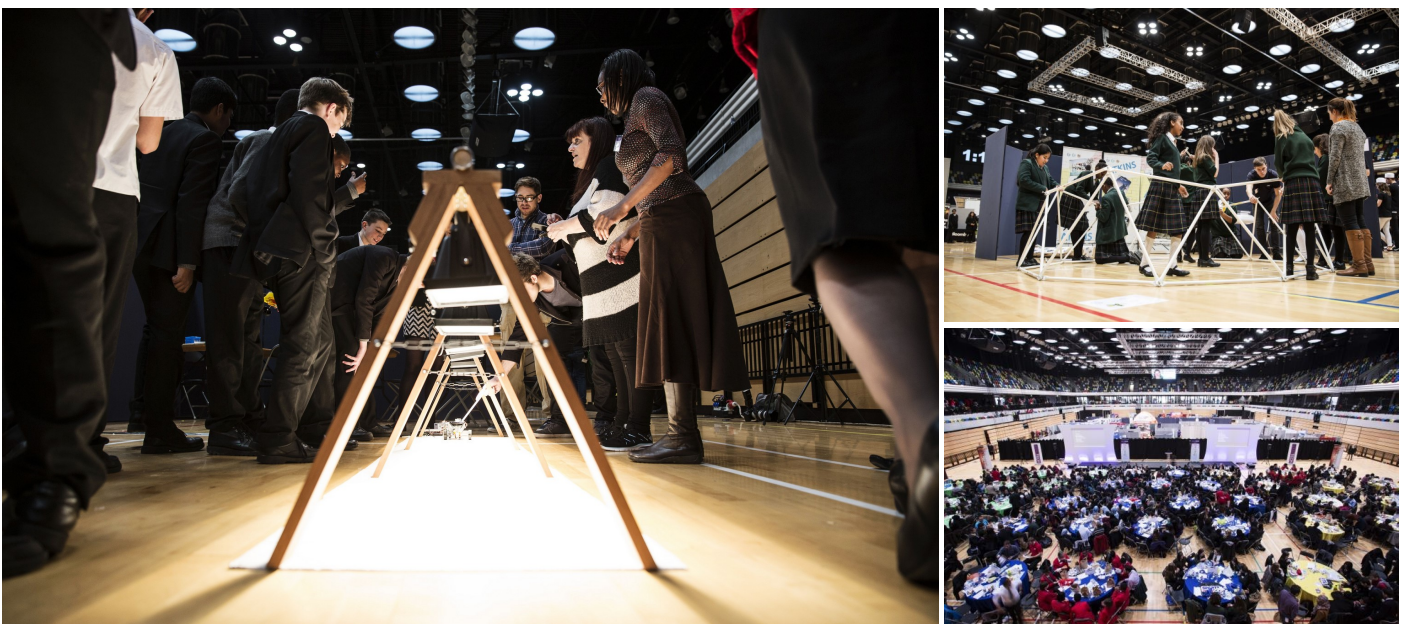
The TeenTech Awards were established in 2012/3 to encourage students to develop their own ideas for making life better, simpler, safer or more fun. We could see how attending our events significantly increased young people's interest in technology and we wanted to provide a structure which would give them more opportunities to meet exciting people in industry and seriously consider careers in these areas.

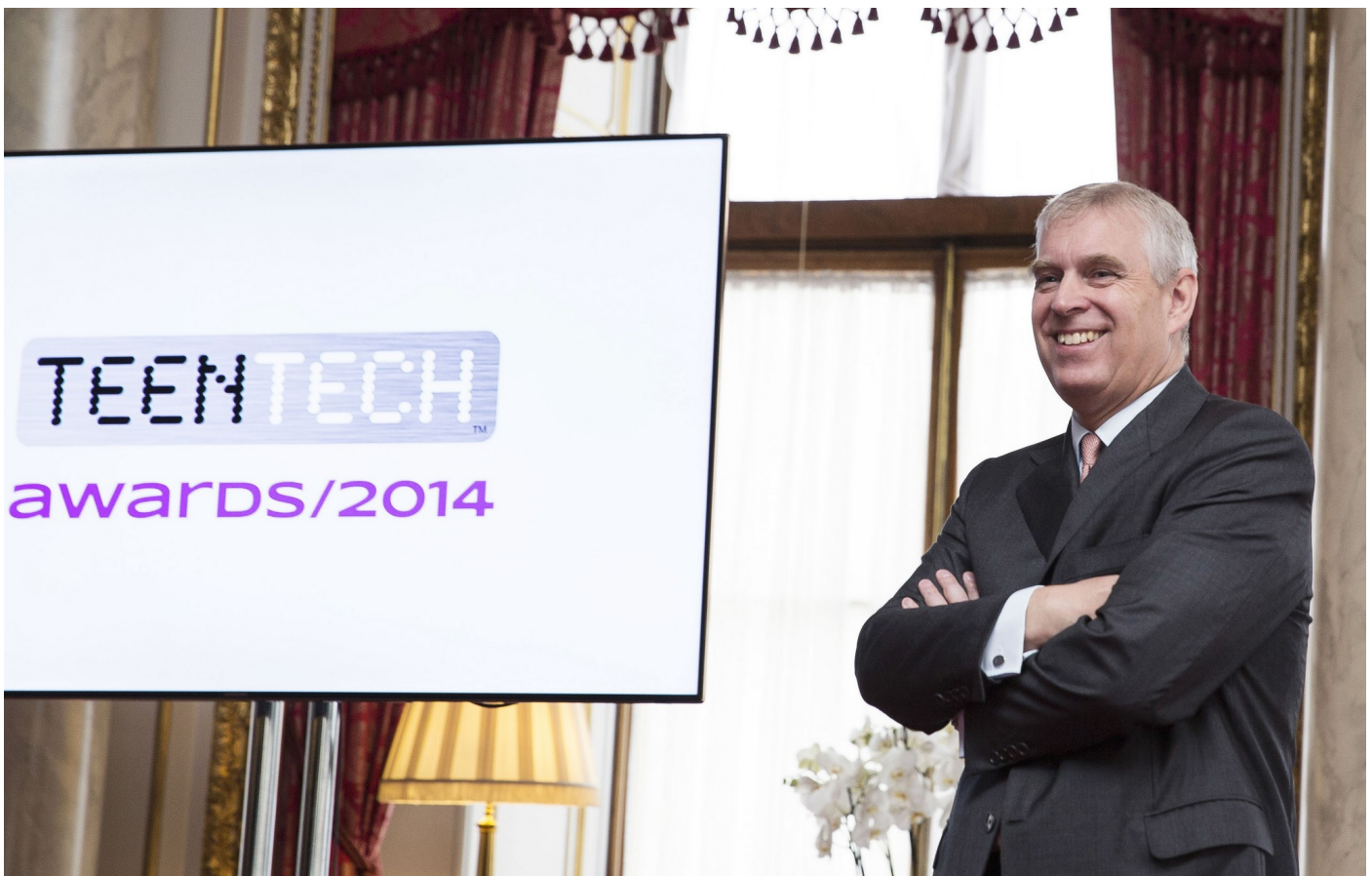
It's been thrilling to watch the Award scheme grow year on year, with many schools now running the initiative across entire year groups and telling us how the enthusiasm cascades 'like a bushfire' through entire schools. All submitted projects are graded Bronze, Silver or Gold by our industry judges and the strongest projects are here today.

We are completely indebted to our sponsors, mentors and judges who help students see how they very much belong in this world irrespective of gender or social background.

The Awards are currently open to 11-16 year olds but we are responding to demand and they will be extended to a wider age group from Sept 2015. We are very excited by this development as it will not only enable students to continue working within our framework but will also provide them with many valuable industry contacts for work experience, apprenticeships and graduate traineeships.

If you are a visitor, we very much hope you will support TeenTech in the future, providing encouragement, inspiration and practical support for a generation with the potential to change the world.





Introduction from HRH Duke of York KG

It has been my privilege to be Patron of TeenTech for the last three years. It is growing and developing continuously and the work TeenTech does is underpinned by a genuine spirit of collaboration and a collective determination to make a real difference to the lives of many young people searching for what career path to choose in a confusing and mysterious world of industry and business. We need young people to choose to work and be inspired by the worlds' of engineering, science and technology.

The aim of TeenTech is to highlight to young people, their parents and teachers the real opportunities that exist within industry. Students get the opportunity to understand the value of skills not always recognised by formal examinations by attending TeenTech events and participating in the TeenTech Awards. Creativity, leadership, communication, team-work; along with personal aspiration, motivation and organisation are key ingredients leading to a set of skills that all industry and business are looking for, as well as the very important additional one of attention to detail.

In the last year, TeenTech has worked with over 5,000 young people. 2,000 engineers, scientists and people working in technology, encouraging them to act as advocates when they return to the classroom or the workplace. This advocacy is now being felt in entire schools and whole communities. The combination of the companies, universities, schools, teachers, alumni and volunteers that support TeenTech's mission is very impressive and under the leadership of Maggie Philbin TeenTech is a powerful and dynamic force.

I wish all of the students here today the best of luck and hope you will enjoy meeting the many people attending to help you on your journeys to becoming the force generators of enterprise for the future.

12 large-scale TeenTech events across the UK

4000 mixed ability students and **490** teachers from **380** schools attended our events last year

50% male/50% female students attended our live events. They then set up Tech Clubs, create assemblies, news reports and webpages significantly amplifying the reach

99.5% of teachers said they would 'definitely' bring students to another TeenTech event. Two teachers said 'Maybe'. No teacher responded with 'No'

92% teachers said our events increased their own understanding of STEM careers (At 6 events this was 100%)

The TeenTech Award Scheme now runs in over **180** UK schools, consistently appealing to both genders

Team members submitting completed projects are **51%** female and **49%** male

2013

33 girls were in the finalist teams as opposed to 41 boys
16/32 students in winning teams were girls
The overall winners were a team of girls

2014

35 girls as opposed to 46 boys were in finalist teams
17/32 students in winning teams were girls.
The overall winners were a team of boys

Coming Up...

TeenTech Clubs will run in all Maplin stores from September 2015

TeenTech Digital new events for 16-18 year olds

TeenTech City of Tomorrow new initiative for Years 5 & 6 and 7&8

Judging the TeenTech Awards

The categories of the TeenTech Awards cover the most important industries of the future and help students understand more about the huge range of opportunities in these areas.

We asked the judges to look for original ideas and projects that demonstrated thorough research and presentation with a clear understanding of the potential market. Students were asked to prove that they had sought-out and contacted industry experts and worked with them, in the spirit of global collaboration.

This year judges have awarded bronze, silver and gold certificates plus individual feedback to each and every participant in the process.

Guest Judges and Presenters

Alongside our sponsor judges we are indebted to the following:

Martha Lane Fox
Businesswoman, Philanthropist, and Public Servant

Dallas Campbell
Science and Technology Reporter

Dr Christian Jessen
Doctor and Television Presenter

Jon Culshaw
Impressionist and Comedian

Katy Brand
Actress, Comedian and Writer

Zoe Cunningham
MD Softwire

Jon Dickinson
Equal Experts

Professor Peter Foote
Head of Enhanced Composites and Structures Centre,
Cranfield University

Sophia Griffiths
Institute of Food Science & Technology

Ali Maggs
Company Director & Lead Developer, Chaos Created

Professor Peter McOwan
Queen Mary University of London

Yvette Newbatt
Institute of Cancer Research

James May
Television Presenter and Journalist

Kate Russell
Technology Author and Broadcaster

Rufus Hound
Comedian, Actor and Presenter

Charlie McDonnell
Vlogger

Liz Rice
Co-founder, Tank Top TV

Professor Ian Wilson
Senior Lecturer, Mechanical Automotive and Manu-
facturing, Coventry University

Professor Averil McDonald,
University of Southampton

Amy Wettenhall
Commercial Director, Ericsson

**Welcome**

By Maggie Philbin, CEO TeenTech CIC

Presentation of Awards

Compères : Duncan Shelton and Kate Oubridge-Egan from Park House School

Future of Retail & Finance Category - Prizes kindly donated by Tech London Advocates**Notre Dame School, Greenock – Lucy, Lucy and Bethany for “Money Manager”**

The aim of Money Manager is to help people budget wisely by letting them see where every penny goes. It will compare spending habits each month, sync to bank accounts, create a financial calendar of events and alert users to unexpected transactions to help prevent fraud. Money Managers innovative addition is the ability to call or instant message directly to an advisor for personalised advice.

The Rawlett School – Nathan and Tieler for “Pocket Money Scanner”

Children can earn set amounts of pocket money from their parents by doing jobs. They take a photo of a room, such as a bedroom, in its normal state. They then take another picture when it is messy and the scanner will work out how much money the job is worth in pocket money, subject to parental approval.

Tunbridge Wells Grammar School – Tim and Charlie for “NFC Companion”

A quick and easy way to store all your contactless cards in one place on your smartphone or tablet. It utilises technology currently unknown to most people, allowing you to make payments, use your annual or season travel passes, be it oyster or county bus cards and more. With NFC Companion there is no longer any need to carry your physical cards.

International Collaboration Category

Impington Village College – Holly, Rachel and Eleanor for “Exo-cup”

Our cup will revolutionise the way people buy and consume, drinks, soup and noodle meals. Our idea uses a simple, safe exothermic reaction to warm up a drink on the go, appealing to climbers, travellers and parents. Our idea came from our frustration in not being able to have a hot drink at school as we have no access to hot water.

The King Edward VI School – Tom, Alistair and Jack for “Aidship”

An airship to transport aid to areas of natural disaster. We've greatly benefited from a wealth of international collaboration, including with students in Estonia and experts at The University of South Wales Australia, and more!

Future of Food Category - Prizes kindly donated by IFST and Waitrose

Birkdale School – Lewis, William and Pablo for “Better Dinners”

We are about reducing food wastage and improving the life of disadvantaged people in our community, across the country and around the globe. We can help all organisations with excess food distribute it in a more efficient way that will reduce food wastage and ensure the homeless and other disadvantaged people have access to a daily meal.

St Aiden's C of E High School - Greg and Robert for “Allergize”

An app to aid people with allergies and designed to warn these people of any ingredients in a food product that could cause an allergic reaction. We have designed this app with helpfulness, simplicity and ease for the user in mind aiming to make the process of scanning/shopping quicker and easier than it ever has been.

West Exe School – Maddie, Nicole and Laurel for “Can Insects Feed the World?”

One day in our food technology lesson we watched a television programme titled 'Can Eating Insects Save the World?' We were fascinated by the content as we learnt that insects are not only delicious, but also high in protein, require little sustenance to survive, and are easy to breed – in other words are the ultimate eco-food and so our project began.



Research and Literacy Award - Sponsored by CILIP Information and Literacy Group

This is a new award, sponsored by the CILIP Information Literacy Group to recognise excellence in research and information literacy. This award highlights the importance of students having highly developed research skills and the ability to critically and ethically use information to underpin their projects. This award will be judged across all categories on the Award day.

Healthcare Category - Prizes kindly donated by Laleham Health and Beauty

Beaumont School – Ava, Hira and Noshin for “Apptitude”

A fitness app that lets you compete against your friends in real time, combining fitness with a social and competitive element. By competing in real time, you are guaranteed instant results, and the sense of competition can really help to boost people to exercise more and reach their fitness targets. The app also provides a personalised approach to fitness; it uses your profile and current fitness level to help you set and accomplish your goals.

Isaac Newton Academy – Muaz, Daanyaal and Chirag for “S.T.EYE”

A condom with an inbuilt indicator that changes colour on coming into contact with some of the most common sexually transmitted infections. Providing peace of mind to all who purchase it, S.T.EYE promises to be the most 'penetrating breakthrough' in the history of the condom so far!

Loreto Grammar School – “Set in Time”

Creates stimulating and interactive presentations that bring the past alive through the senses- sight, sound and even smell, for Dementia suffers. Dementia patients, particularly in care homes, can reminisce in the times they feel 'stuck' in rather than present day. It is also a way of preserving British film and photos and provides a way of calming down dementia suffers if they have a panic attack.

Loughborough High School – Orianna, Kavisha and LokYue for “S.E.N.S.E.”

We have designed an allergy bracelet that will alert users to their specific allergens using a micro spectrometer and RFID technology. The spectrometer will shine a near infra-red light onto the surface of the food, causing the molecules to vibrate and reflect in a unique way. We believe that overall our product will save time and money on the NHS as well as benefitting a wide range of people with various allergies.

Swanbourne House School – Oscar, Robin and Henry for “Healthband”

A new, innovative wristband to assist people with a range of medical needs and to help them lead independent lives. The band monitors heartbeat, blood pressure and other health related information and automatically contacts the emergency services, in addition to providing vital information to medical professionals when necessary. HealthBand – Simple, secure, saving lives.



Safety & Security Category - Sponsored by Symantec

Birkdale School – Aryan, Rishin and Sam for “Citizen Alert”

Our app technology is aimed to EMPOWER CITIZENS to better protect their property and take their own ACTION supported by private local security operations when they have lost their personal belongings or found another person’s belongings. We are about creating a new deterrent to personal theft while reducing police involvement saving the UK Police Force time and money.

Loughborough Grammar School – Yaseen and Alex for “AssuRFID”

A wristband which uses existing RFID technologies such as NFC to enable students, employees, workers and other users to use a unique ID to gain access to secure locations and log into computers and other resources, such as ordering lunch.

Loughborough High School – Shivani, Rebecca and Charlotte for “Safehouse”

The SafeHouse home security system can be personalised for the individual or companies due to the wide selection of features and can be controlled by a single app. Some of these features include; Smart Curtains, Light Gates and Remember Me Boxes containing facial recognition software.

Sandbach High School – Rosie, Isabel and Ella for “Emergency Street Lighting”

In disaster stricken areas, such as areas suffering from the effects of natural disasters, or areas that have been struck by poverty or conflict, people are forced to live in the dark. Our product is a clamp-on emergency street lighting mechanism that can be easily mounted onto any structure. The first step to making conditions safer for people in a crisis is to make their environment and streets safe, and emergency outdoor lighting could help solve this problem.

Energy Category - Sponsored by National Grid**Bethnal Green Academy – Yoseph, Zubair and Samiul for “N-ergy+”**

A shoe designed to harness the energy from walking to charge devices.

Loughborough Grammar School – Darpan and Mehul for “Bodylights”

A blanket which will produce electricity from body heat, providing a stable energy source to power medical equipment in emergency situations like natural disasters or it could be used to light a room so a child does not have to study in the dark. We recognise the imminent energy crisis and how it could impact the lives of thousands of people living in less advantaged areas throughout the world.

The Costello School - Raphael, Ashesh and James for “TE Energy”

Our idea converts wasted thermal energy, in white good products e.g. fridges and washing machines, into useful electrical energy that can charge an external battery or be worked back into the product via thermoelectric energy.

Digital Skills Category

There are few aspects of modern life that are not touched by Information Technology. This award recognises both excellence in computer programming as well as creativity in the use of IT. All students exhibiting projects today are considered for this award and in addition we have selected the following teams as finalists:

Loreto Grammar School – Lucy and Josie for “Elements”

Its interactive software is a computer program combining chemistry and computing; designed to aid students solve and understand chemical reactions through a reaction calculator and drag-and-drop experiments. It is also designed to help teachers to plan interesting and enjoyable science lessons for their students.

Portslade Aldridge Community Academy – Dexter, Morgan and Guolin for “Starburst Elements”

We are developing a Periodic Table 3D game that will be both fun and educational. We are using Raspberry Pis; an RFID reader, Arduinos and 3D printed objects in order to bring the Periodic Table to life. Team Chemistry are bringing exciting “3D classroom learning” your way!!

Transport Category - Sponsored by Airbus



Alton Convent School – Lauren, Lucy and Gabriella for “mShuttle”

An intelligent medical shuttle. The innovative GPS-enabled product will reduce the weight of heavy-duty equipment in high intensity rescue missions, making their journey and situation more efficient. It will also facilitate on site assistance whilst awaiting further medical support. In the future it could potentially serve as a secondary ambulance.

Welland Park Academy – Sophie and Grace for “Ticket Terminator”

The car park Ticket Terminator is used instead of ticket machines that are slow and require you to carry the right amount of change. Number plates are scanned as you enter the car park and as you leave, a bill summary with all the details including the total amount you have paid being sent weekly. This hassle free system will make life easier for drivers parking in many types of situations across the country.

Ysgol Glan-y-Mor – Lewis, Charlie and Bradley for “SmartChair”

An automatic guidance wheelchair that will drive you to different places in your home, hospitals, care homes and special schools. It will control itself without the assistance of a carer. The guidance system in the wheelchair will use a sensor to follow a white line placed on the floor. The wheelchair's purpose is to help disabled individuals have more independence or assist carers with their roles and duties.

Manufacturing Award - Sponsored by Cranfield University with additional prize kindly donated by Coventry University



Some teams go to considerable effort to build working models or prototypes and whilst this is not a condition of entry, we felt it was important to acknowledge the further step taken. All students exhibiting projects today are considered for this cross-category award and in addition we have selected the following team as a finalist:

Windsor High School – Lydia and Rebecca for “I.A.S.H.U”

I.A.S.H.U. stands for infrared, altitude sensing, hovering umbrella. We came up with the idea because everybody agrees umbrellas can be very annoying. This will come in handy as you wouldn't have to hold it yourself, it would prevent it from blowing inside out. Also it will move with you as you walk. You can fold it up and it will come with a foam cover to keep it in.

**Environment Category - Sponsored by EDF****Fowey River Academy – Molly, Eve and Katie for “Solter Systems”**

The Solter systems water purifying box kit brings water to those who need it! The box kit contains everything you need to filter and purify dirty contaminated water, allowing it to be drunk safely. It has a two-step filtration and UV purification process, and because it uses solar energy, no cost is involved after its production. It's a simple invention that could change the world!

Millburn Academy – Fraser, Quinn and Kyle for “Help on the Hill”

Our idea is to create a hillwalking app that can be used by walkers and climbers out in the wild. You would be able to pre download routes and walks and it would also have a compass mode for navigation. An anemometer attachment could also be used to measure the current wind speed, analyse the areas humidity, measure temperature and charge the phone via the wind power available.

Ringwood School – Alexander, Toby and Isaac for “The WDD”

The WDD (water distillation device) works on the basic principle that if dirty water turns to steam it will leave the dirt (including bacteria) behind. It will then condense producing clean water. This particular design is useful in disaster areas due to its small size and the fact that it is made from cheap, easily available materials. It can also be mass produced to supply villages waiting for a long term pump and could even be made by people living in the area.

Tunbridge Wells Grammar School – Will, Sam and Alexander for “Guardian”

A fast and easy wooden disaster home which is manufactured off-site and then transported flat -packed to the disaster zone for assembly. It is fully insulated and waterproofed and specially designed to withstand strong winds, heavy rainfall and harsh climates provided it is assembled correctly. Our design can be adapted to accommodate as many people as required, with the standard model holding up to ten adults..

Ysgol Glan-y-Mor – Jennifer, Emily and Wiktorja for “Solar Powered Bench”

Our multipurpose design can inform you of daily news and weather together with tourist or venue information via a touchscreen tablet. There are also facilities to charge a device by using a USB port. We plan to provide a canopy or roof to prevent the seat from becoming wet or damp, which would also house the solar panel to power the charging point and information screen.

Design & Construction Category - Sponsored by Atkins

ATKINS

Bethnal Green Academy – Christopher, Mujahid and Abdul for “Sustainable Structures”

Our innovative idea is to provide simple, sustainable and secure long term homes to people in third world countries and disaster areas. Our product is a small crate that can be easily delivered to where its needed, with all necessary materials, for people to easily construct their own secure, long-term home.

Okehampton College – Oliver for “Alarmattress”

A mattress with a vibrating alarm function, designed to help people with oversleeping issues and the hard of hearing to get up on time. It includes various other features, such as: a built-in quad speaker sound system; Bluetooth/Wireless connectivity to a wide range of mobile devices; an LED remote control with extendable USB and Apple 30pin/Lightning connector sockets; and more.

The Hayfield School – James, Sean and Luke for “Easehall”

An eco-friendly building that aims to be a central part of any community. It is constructed largely from recycled materials, uses renewable energy sources and aims to be sustainable in its maintenance. Its design aims to be fully inclusive of all ages, ability and personality, helping bring the community together within a green design.

**Music, Media and Entertainment Category -
Sponsored by JVC Kenwood**

JVC KENWOOD

Churston Ferrers School – Lily and Megan for “Lookbook”

Our app allows the user to scan the barcode of up to 15 items of clothes,, input what their day consists of then the app will put together the perfect outfit. The app would also include daily fashion news and a social networking link where you can post your outfits and gain followers. It will not allow airbrushing or photo shopping therefore encouraging the concept that size does not matter!

We think this app will not only be useful but a great way to send a positive message across therefore creating a healthier society for young people.

Loughborough Grammar School – Baltej and Paarbrahm for “KRONOS”

An entertainment drone which will revolutionise how memories are created and captured with a unique drone which will have inter-connectable parts and will allow users to record 360° video footage; project images, take photos and play sound. It will also enable a light substance to be scatter over crowds e.g. confetti. The footage can be used to create a virtual recreation of a real life event by linking it to the google cardboard allowing viewers to feel the memory and not just view a photo.

Okehampton College – Sam and Reece for “Reel Strings”

An innovative and original product that allows guitarists to change strings quickly and easily. A series of reels holds enough string for an emergency change or general restringing and the reels can be changed simply. The Reel Strings system will be available as an external conversion kit (specialist bridge and reel rack on the outside of the guitar) or as a guitar containing the reels inside.

**Infrastructure Category - Sponsored by Network Rail****Fowey River Academy - Harry, Alex and Connor for “Floodless Future”**

What does a working railway line mean to Devon and Cornwall? Thousands of people who live in Cornwall depend on tourism, and the business that the railway link into the county provides. That is why Network rail need a new solution, a floodless future where railway lines are never again destroyed by high tides and bad weather!

Park House School – Jack, Connor and Laurence for “e-water dispenser”

Park House Schools’ TeenTech team have been involved with the design and production of the eWaterTap, a device to be used in rural Africa to help communities manage their water systems. It is being run by Africa Water Enterprises, a UK registered Charity.

The Costello School – James, Kris and Salar for “AIRpower”

We envision wireless power - a world without wires.

Our product AIRpower, is the solution. By changing electric energy into a magnetic field, not only are we making energy transport more efficient and safe, but we are also getting rid of your annoying wires. It will almost be magical for our customers. “A World Without Wires”.

Wearable Technology Category - Sponsored by Maplin

Birkdale School – Harvey, David and Will for “Psijure”

Our idea is to create a fabric that is able to change colour for a huge range of activities at a fast rate. The changes being accurately controlled using a small electric current and the patterns could morph into another one at the owner’s will.

Clevedon School – Amy and Grace for “Walkabout”

Allows young people to explore outdoor spaces and would enhance their experiences. It uses modern technology to communicate between adult/ leaders and the young people. Walkabout is using advances in modern technology to extend the design opportunities of an already existing product, the high viz vest.

James Allen’s Girls’ School - Alice and Iona for “Indicate”

A fluorescent cycling jacket with LED indicator arrows to help cyclists be more visible when indicating.

Loreto Grammar School - Emma for “Photoglas”

Photosensitive epilepsy glasses monitor the surroundings: temperature, humidity, noise, light, air quality and barometric pressure, its aim to detect and prevent seizures so the sufferers are able to relax and be alerted when a seizure may occur.

The Costello School – Jerome, Jake and Nick for “LoCrate”

Have you ever wanted to save lives? We have created an idea to accomplish this goal by inventing a device that will be able to transmit the location of a cyclist to the emergency services if they are in the event of an accident and need dire help. Located in the helmet, this will work by monitoring the vital signs of the cyclist and act as a shock detector to detect sudden impact in a crash.

Wycombe High School – Amelia for “SECURUS”

A security bracelet designed to keep the user as safe as possible from any external hazards. The product has a ‘panic button’ which allows a direct connection with emergency services, it measures the user’s pulse so if panicked the user’s location will be sent to the police. Furthermore, the bracelet can be linked to the user’s mobile phone to connect to a home security system to allow the user to feel safe whether they are at home or not.

Consumer Innovation Award - Sponsored by Maplin

This is a new award sponsored by Maplin to find the best idea using tech to solve an everyday problem. Maplin will work with students to see if their idea can be made, marketed and sold in their stores with all profits going back to the winner.

This award has been judged across all categories. All students exhibiting projects today are considered for this cross-category award and in addition we have selected the following teams as finalists in this category:

Sandbach High School - Natalie and Zia for "Sleep Tight Pillow"

'Designed to help users to relax and fall asleep, by creating an environment in which they can feel safe and comfortable. This is achieved by playing music or a recording of a parent's voice. The pillow will also monitor their sleeping pattern, heart rate and breathing rate and sending this information to the customer's phone. It is primarily aimed at children with special needs that potentially affect sleep such as autism, and will be tailored to the specific child's needs and interests. Our research leads us to believe that this product would be helpful, as some behaviours are affected by lack of sleep or inability to relax. When using the sleep tight pillow the child will be less tired and would have better behaviour during the day'

Windsor High School – Abigail and Natasha for "Hypahair"

'If you care about your hair, then why not buy HypaHair!'

HypaHair is a hair accessory that can match any colour of a garment you wear. After taking a photo with your phone, you will then be able to use bluetooth or Wi-Fi technology to transfer this image to the hair clip. As a result this colour will then display on the hair accessory.

Education Category - Sponsored by Google**Birkdale School – Shahid, Alfie and Jacob for "Explain!"**

To provide a quality educational App product that is exam board and teacher approved. An App that allows students on hand held devices to engage in independent learning to improve their attainment, achieve better exam results, maximize their potential and excel in school.

Loughborough High School – Shreeya, Anisha and Bhavanaa for "KOSMOS"

An interactive spherical, multi-sensory, multi-touch screen globe; it will benefit children in primary schools with learning difficulties such as dyslexia. It will revolutionise the way in which students learn in the classroom, by filtering data from search engines and educational websites and simplifying the information to present onto the globe, making it easier for students to learn visually.

Okehampton College – Sophie and Ellie for “Time Window”

Our “innovative” product idea is based around our shared love for photography, history and travelling. It works using GPS and our own database; we would link it up to a site like Google maps therefore, becoming more users friendly. It allows the user to find out the history of a building or a place simply by using their device and taking a photo.

**Teacher of the Year Category -
Sponsored by OCR**



TeenTech appreciate that behind every student project entered for the TeenTech Awards lies the dedication, time and organisational skills of a teacher who has taken on the considerable extra work and planning that entering a competition of this type involves. There will be an individual Award for a teacher who we believe has shown exceptional imagination and dedication to help their students.

People’s Choice Award - Prizes kindly donated by Samsung

Every school has been asked to vote for a team other than their own.

Our Partners

Airbus: "As one of the largest global engineering companies, we believe we have a responsibility to encourage the younger generations to consider STEM careers and inspire them to aim high. TeenTech offers a fantastic opportunity to facilitate this. Looking ahead to the future, innovation will be a major contributor to the success of our business and this is driven by a passionate and determined mind-set at Airbus, which we hope will motivate young people to learn to think outside the box. Airbus is continuously looking for the brightest talent to join us on an exciting venture to pioneer the future of air transport; and with the extremely high standards of work performed this year at the TeenTech awards, Airbus is proud to be working in partnership with TeenTech."

Symantec: "Symantec is excited to support the TeenTech Awards. The innovation and inventiveness of the students is inspiring. It's amazing to see industry class ideas and projects coming from the schools."

Atkins: "The need for more engineers is well known but simply highlighting this fact is not enough. We need to inspire young people to develop a passion which will make them want to be designers and engineers. This competition stimulates imagination, develops skills and gives entrants a peek into what can become an immensely fulfilling career. By sponsoring TeenTech's Design & Construction award Atkins is pleased to be helping turn words into positive actions".

Cranfield University: "We are delighted to support TeenTech again and fully endorse the importance of reaching out to the next generation of potential innovators and engineers in our schools. Our special interest in this year's TeenTech competition is in manufacturing which is crucial to the future prosperity of our country and an important theme in our University. In supporting TeenTech, what better way is there to encourage young and creative minds to turn on to the almost endless possibilities of materials and devices and how they can be put together to turn brilliant ideas into brilliant creations."

CILIP: "The CILIP Information Literacy Group are thrilled to be supporting TeenTech and are involved in the project because we are passionate about helping to develop young people's research skills to prepare them for their future careers and lives. Science, technology and innovation rely on highly developed research and information literacy skills. Our new award will recognise excellence in these areas and our dedicated team of librarians and information specialists will provide support and guidance for the TeenTech projects."

EDF Energy: "At EDF Energy we are passionate about engaging young minds with science & engineering, which is why we are delighted to be a 2015 National Sponsor of TeenTech, and the sponsor of the Environment category for the 2015 TeenTech awards."

Google: "Google aims to inspire young people around the world not just to use technology, but to create it. That is why we are proud to sponsor the TeenTech Awards. We want to prepare the next generation for the workplace of the future, and expand access to CS education that engages and retains students from all backgrounds, particularly girls and minorities, who have historically been underrepresented in the field. We are thrilled to see the growing number of students who are creating, and not just consuming, technology, and we'd encourage everyone to explore what they can build, create and solve with computing"

JVC Kenwood: "JVC are proud to be sponsoring the TeenTech awards which encourage students to learn about emerging technologies and inspire them to think innovatively and become the inventors of tomorrow.

The Awards provide the youngsters with the ideal platform to help them engage with modern technology and express themselves with a view to come up with more effective and exciting products"

Maplin: "Maplin first attended a TeenTech event at Doncaster in March 2014. Initially we attended as ambassadors, but after being wowed by the event and the line-up of companies attending, we've developed our relationship.

TeenTech events are an amazing introduction for students to the tech industry and we've found it works the other way around too. Our store colleagues who attend are regularly, and genuinely, amazed and inspired by the students. In a single day you can witness first hand transformations of sceptical tech user to converted tech enthusiasts.

This year we are delighted to take our relationship further and sponsor two of this year's Teen Tech Award categories and we wish each participant the very best of luck with the awards."

National Grid: "National Grid are committed to giving young talent the best opportunity to flourish. We therefore support the TeenTech Awards as they give students the platform to put their ideas forward, liaise with experts in their field and provide them with their first insight into how a project works. The awards are a fantastic opportunity to inspire the next generation of engineers."

Network Rail: "Network Rail was first involved with TeenTech when we ran a stall at one of the regional events. The event highlighted the excitement and enthusiasm that exists from teenagers about learning new, different things. These TeenTech events have given us an opportunity to show people what working on the railway is really like. We have been able to open the eyes of people who potentially wouldn't have considered a career in engineering potentially due to incorrect assumptions and stereotypes. It is great what TeenTech are doing to engage schools and pupils alike to the opportunities that are out there in careers that figures have shown, they would normally dismiss. We are proud to be 2015 sponsors."

OCR: "OCR are proud to be a part of the TeenTech Awards for the third year running. As a leading awarding organisation, we appreciate the importance of computing and engineering in schools and work closely with teachers to support delivery and to raise wider awareness and understanding of the STEM subjects".

Along with our sponsors we would like to thank the following, who have given their time and talent to make the TeenTech Awards a very special day.

Ian Wilson from Coventry University for Innovation Days and travelling the entire country to support TeenTech awards students.

Harry Ortman for the design work across our Award materials, and to Ali Maggs at chaoscreated.com for designing this programme.

PA Consulting for 3D printing our Awards.

Many thanks to the Royal Society for letting us take over their wonderful venue.

Amanda Thirsk
Amy Wettenhall
Carlos Monteiro
Christian Fisher
Colin Truss
Dom Kimber
Dylan Warner
Eamonn Hunt
Ellie Dodson & friend
Harry McVeigh
Harry Ortman
Honey Howell-Williams
Ian Wilson
Jacqui Jones
James Upsher
Louis Thijssen
Lucas Voss
Marc Ortman
Marlon Thompson
Pat Sartorius
Polly Harris
Ranjini
Sandra Cooper
Suzanne Lewis
Valerie Elliot

TeenTech Awards Team

Maggie Philbin
Dani Longhurst
Gia Milinovich
Anna Sheard
Sue O'Hare
Helen Wilson
Patrick McVeigh
Professor Alan Woodward
Roland Allen
Rose Chegwin
Polly Dysterre-Clark

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Technology Will Save Us
Thales
Thames Tideway Tunnel
TH Michaels (Construction) Ltd
The Breeze (Radio station)
Unipart Rail
Virgin Atlantic
Wood Group Kenny

Universities supporting student projects for the TeenTech Awards

Advanced Manufacturing & Engineering, University of Coventry
Birmingham City University
Bristol Robotics Lab
Coventry University
Cranfield University
De Montfort University, Leicester
Falmouth University
Glyndwr University
Gower College
Makenow, Falmouth
Oxford Brookes
SepNet Outreach
The Open University
The University of Bath
The University of Cambridge
The University of Greenwich
The University of Hertfordshire
The University of Hull
The University of Kent
The University of Loughborough
The University of Manchester
The University of Oxford
The University of London, Queen Mary's College
The University of London, Royal Holloway
The University of Portsmouth
The University of Southampton
The University of South Wales, Newport
The University of Surrey
The University of Sussex
The University of Wales, TSD
The University of Warwick
University of West of England
The University of Wolverhampton
York St John University

What they say...

"I have learnt that although technology can impact the world in a bad way it can also benefit society if used in the right way. I have also learnt there are a range of difficulties/challenges when creating an app for example the software the target audience etc. therefore teaching us there is a lot more to think about than we thought but overall teaching us that the internet although can be dangerous, if used in the right way can benefit society greatly."

- Churston Ferrers School

"We have learnt lots of life skills, such as how to write formally to transnational corporations; how to link with university professors and post graduate students; how to market research an idea and gain public feedback; as well all the technological information about speakers, projectors and lighting. We've learnt about new types of energy and a lot about drones."

This project has been an excellent opportunity and we are very glad we were able to take part. We would particularly like to thank the universities who have shared ideas and research papers to inspire us."

- Students Loughborough Grammar



"The real benefit of involvement is the students get the opportunity to make connections with the world of work and are allowed to be creative, innovative while collaborating with University and Industry representatives. They are learning skills in pitching and presenting, producing reports, meeting deadlines and the number of opportunities that are available to them after school. All this with their Intellectual Property rights protected! Valuable feedback and certificates from judges serves to further inspire students to take their idea further"

- Elaine Manton, TeenTech teacher of the Year, 2014

TeenTech Event days are large scale regional events bringing together students from 30/50 schools across a region and over 140 scientists, technologists and engineers for a day of challenges and experiments. We have measured the impact of events since 2008 and know there is a real shift in student perceptions, particularly amongst girls. Events run in 15 regions of the UK and the Republic of Ireland, each with its own regional steering group. The event day is just part of the initiative with schools working on projects both pre and post event.

Feedback from teachers and companies is overwhelmingly positive with 98.5% schools who attended a TeenTech event in 2014 saying they will definitely attend another. You can find dates for 2015 events below.

TeenTech Digital events are suitable for smaller venues and festivals. They are suitable for up to 150 students and offer fresh insight into digital skills, entrepreneurship and innovation. TeenTech Teacher CPD sessions provide insight into the fast changing careers landscape and the skills needed. We run the sessions in collaboration with industry.

Innovation Zone

Pupils work with UK app developers to develop their own app ideas...

The innovation zone let's pupils design their own app or game as part of a development workshop. Working with two UK app developers, pupils learn about the development process and then simulate a hackathon, coming up with their own ideas to pitch to our developers.



Insight Zone

Pupils meet and talk to real-world innovators...

The Insight Zone allows pupils to meet, and talk to real-world innovators, large technology companies, and industry leaders. Pupils get an understanding of the industry, and can participate in simulated tasks that illustrate the real work that goes into science and technology.

Challenge Zone

Pupils take part in competitive tasks, simulating real world work...

In the Challenge Zone, pupils compete to complete simulated tasks that demonstrate real world work by major science and technology companies, and prizes are awarded.

