

The UK's leading **STE(A)M** charity



Impact Report

Creating pathways for young people and unlocking their potential

Month / Year

Our Vision

EDT is an established, UK-wide educational charity. We excite and inform young people about STEM careers, preparing them for the imminent 4th Industrial Revolution. Delivering over 40,000 experiences each year and engaging with over 350 industry partners, EDT is actively building a diverse talent pool for the UK economy.

EDT's vision is a society where young people across the UK have equal access to engage with STE(A)M activities and achieve their potential in STEM careers and opportunities for further study and employment.

The UK science, engineering and technology sectors face significant challenges in terms of skills and resource. Research by Social Market Foundation (Nov 16) found STEM jobs will grow at twice the rate of average as a result of the 4th Industrial Revolution. This is against a backdrop where employers are already identifying recruitment difficulties and skills shortages. Education & Employers Taskforce (2017) shows that young people who have 4 or more encounters with the workplace whilst in education are 86% less likely to be NEET, so the socio-economic argument is significant. The STEM sector also has a diversity challenge, with just 9% of engineers being female and 6% identified as an ethnic minority.

Our aim is to make STEM careers accessible to all young people regardless of background, gender or ethnicity. We run a variety of activities and projects for young people across the UK. Our programmes range from single day or evening STE(A)M activities to year-long placements in industry.

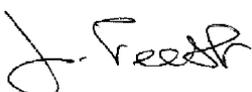
We have offices across the UK and use local delivery teams, utilising industry knowledge and established educational partnerships.

EDT deliver with a difference; we

- ensure all our projects include volunteers/mentors from industry.
- offer a multitude of STE(A)M activities across the whole educational journey.
- can build bespoke programmes with our STE(A)M educational experts to meet sponsors and/or geographic needs.
- use Industrial Cadets to create pathways for partners and young people to unlock potential and promote achievement. This encourages young people to continuously engage, awarding them for their participation, leading from activities through to a fulfilling career.

Industrial Cadets provides students with an industry-led award recognising the employability skills, personal learning and thinking skills acquired during their accredited experiences. The Patron of Industrial Cadets is HRH The Prince of Wales. The Industrial Cadets programme has now been running for over 8 years and has accredited over 58,000 students to date and with 318 companies who have engaged on the programme including Airbus, Arm, Balfour Beatty, BP, GE, GSK, Rolls-Royce, RSA, Scottish Power, TCS, UK Space Agency and Viridor to name a few.

I look forward to sharing and discussing with you the impact we make in the months and years ahead.



Julie Feest,
Chief Executive, EDT.



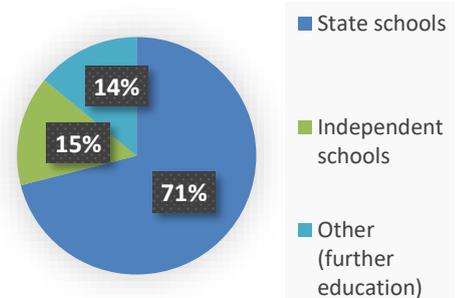
What is the 4th Industrial Revolution?

“The fourth industrial revolution is the current and developing environment in which disruptive technologies and trends such as the Internet of Things (IoT), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way we live and work.”

53% of our students are female

29% of our students are of ethnic minorities

Delivery breakdown



Environment and Sustainability focus



“Our students enjoyed the eco-school and hotel projects because it related to their lives. A lot of the students are environmentally conscious and wanted to help the planet, so they really enjoyed looking at the school and hotel projects and how to improve it.” **Teacher, Jane Austen College**

There has been an understandable rise in the number of young people with “eco-anxiety” and concerns for their future with the wildfires in Australia and the Amazon, animal species disappearing, coral reefs dying out, extreme weather and glaciers melting rapidly.

According to the latest research from the Intergovernmental Panel on Climate Change (IPCC), we have less than 11 years to make the transformation necessary to avoid the worst impacts of climate change.

Schools in the UK have made it a key focus to raise awareness of this global issue amongst those who will be impacted most. Research by The Body Shop says, 80 per cent of teenagers feel pressured to save the planet but don't think they are equipped well-enough to make a difference. Taking action, no matter how small can help overcome those feelings as although young people cannot control what's happening in other parts of the world, they can make small changes in their day to day lives and be a part of finding and creating solutions for a better future for themselves.

EDT helps young people take their STE(A)M learning to the next level and make a real difference.

Working collaboratively with our partners, through Industrial Cadets, we deliver and accredit a range of STE(A)M opportunities for young people with an increasing number of activities focused on the environment and sustainability. Go4SET is a 10-week project, accredited at Industrial Cadet Bronze level. Many of the projects have an environmental theme such as water conservation, recycling, renewable energies and sustainable buildings. The latest project we have introduced to our collection is ‘Material world’; a textile project focused on designing clothing using sustainable resources. Youth leadership, creativity and confidence are amongst the important skills nurtured through the various projects, placements and activities offered.

By connecting young people with UK businesses, we aid industry to engage with and consult the future generation, share real-life challenges they face, use young people's creativity to find solutions that ultimately help businesses do their bit for the environment. This gives young people a chance to make a real difference to the business.

The invaluable opportunities we offer through our programmes help young people and businesses reframe their environmental concerns in a positive way, giving them assurance that they have an active role to play together in changing the course of their futures for the better.

Developing Partnerships

We build links between educators and industry employers, helping organisations reach and connect with young talent across the UK.

Our range of work-related learning schemes provide opportunities for young people to enhance their technical, personal and employability skills. We engage young people through STE(A)M focused experience days, projects, placements, and Industrial Cadets accreditation and awards.

40,000 +
STE(A)M experiences
a year for young
people across the UK

1,400+
Educational
establishments

3,818
Industry &
Partner interactions

35,916
Completed Industrial
Cadets accredited
experiences in 2018/19

STE(A)M
is an educational approach to learning, using Science, Technology, Engineering, the Arts and Maths.
The Arts is about discovering and creating ingenious ways of problem solving, collaboration & critical thinking.

EDT Programmes for young people

We offer flexibility to tailor these programmes to young people's needs and partner requirements

	PROGRAMME	AGE	DURATION	FRAMEWORK	INDUSTRIAL CADETS ACCREDITED
EXPERIENCE DAYS	First Edition	9 – 16	1 Day	Hands-on STE(A)M experiences at schools	
	STEM Family Challenge	9 – 16	2 Hours	Hands-on STE(A)M experiences at schools engaging young people and family members	
	FunSTEM (Scotland)	9 – 11	4 weeks	STE(A)M projects worked on within the classroom	
	Routes into STEM	13 – 15	3 days	Three-day non-residential courses including a day at a college, a university and a company to help students understand different career pathways, including apprenticeships, in their local area	
	Inspire	15 – 16	3 days	Three day residential and non-residential courses at universities to give girls a STE(A)M boost just before they start their Sixth Form studies	
	Headstart	16 – 17	4 – 5 days	Residential courses at universities to help students make well-informed decisions prior to their UCAS or apprenticeship applications	
PROJECTS	Go4SET	12 – 14	10 weeks	STE(A)M projects led by industry mentors	
	Engineering Education Scheme	16 – 17	6 months	Real-life projects based on industry-related issues & led by mentors from industry	
PLACEMENTS	The Year in Industry	17+	10 – 12 months	Paid work placements	

Industrial Cadets



"It is hugely encouraging, that so many young people have become Industrial Cadets. It's clear to me that the rapid pace of change in the way that our industry is operating is bringing a host of new challenges and opportunities, not only in the fields of science, technology, engineering and mathematics, but also of course in the creative arts."

Patron of Industrial Cadets: HRH The Prince of Wales

Industrial Cadets is a key component to EDT's portfolio; creating pathways to unlock potential and promote achievement. Industrial Cadets provides organisations with a skills-based quality framework accreditation, whilst enabling young people to gain recognition and awards.

The Industrial Cadets flexible framework allows:

- **Young people** to have the opportunity to get a unique insight into industry and demonstrate experience and progression. Their skills and knowledge are built and enhanced whilst being supported by industry. Young people receive recognition at the end of their experience and graduate as Industrial Cadets, becoming part of a national accreditation network. They can build their Industrial Cadets portfolio and explore further opportunities.
- **Employers and partners** to have a direct influence in the development of skills in young people; helping to build a future talent pool, raise aspirations and careers awareness. Employers and partners can accredit existing EDT activities or work with our delivery partners to tailor and develop programmes at various Industrial Cadets levels, creating a structured pathway of engagement activities. Once the activity has been successfully completed, organisations gain an Industrial Cadets accredited status.
- **Educators** to enrich the curriculum, with inspiring experiences for their students that provide unique insight into courses, careers and routes to employment whilst engaging with local communities.

Industrial Cadets [Levels](#) and Awards:



Challenger



Bronze



Silver



Gold



Platinum



...of Industrial Cadets agreed that they have improved their skills as a result of their Industrial Cadets experience



...of Industrial Cadets would recommend to other students in their school to take part in Industrial Cadets



...of Industrial Cadets are likely to choose a future career related to their Industrial Cadets experience

Industrial Cadets Week & Awards 17-22nd Nov 2019



EDT hosted the 3rd Industrial Cadets Awards in November 2019. It was our largest ever celebration held at the IET, London, recognising the excellence and achievement of the emerging young talent in the UK as well as partnerships with educators and industry.

The Awards were a part of *Industrial Cadets Week*; an event-packed week with partnered STE(A)M activities, inspirational stories, fascinating facts and aspirational achievements helping to signpost young people to the bright future that awaits them in the UK STEM sector.

Case Studies



Students using STE(A)M skills to find solutions to risk scenarios



Experience Days: Bespoke programme

RSA's solutions help businesses manage the most important risks associated with digital transformation and technologies. RSA wanted to engage in a programme to help young people to become more aware of risks and cyber security and help them have more informed career choices for their industry.

The RSA Digital Risk Management Competition consisted of 10 bespoke First Edition experience days that were newly created for risk and cyber security. They were held at individual schools during October/November 2019. The teams took part in a series of hands-on activities to find solutions to different risk scenarios, before pitching their ideas to a panel of judges at the end of the day. All students received an Industrial Cadets Challenger level award and the overall winning school was announced at the Industrial Cadets Awards.

Chris Miller, Regional Director, UK & Ireland at RSA says, ***“By helping develop local skills for the industry, the feedback from both students and teachers has been fantastic, with teachers explaining that without events like this, they would not be aware of the local opportunities to their young people. It's also been great for the personal development of our own employees at RSA.”***

Although RSA's first year with EDT, they are now reviewing how they can open the potential for students to gain work experience at RSA, and how more RSA employees can help mentor students too.



Headstart gives students the courage to pursue a career in STEM



Experience Days: Headstart

Anna applied to Headstart in order to understand more about engineering before applying to a degree course. She wanted to ensure both engineering and the university route was for her before committing herself to it.

“I had no clear career ambitions, however before the course I knew that engineering was something that I was really interested in. I used EDT and Industrial Cadets to gain a better understanding. “

Anna felt inspired and realised during the Headstart course that she was capable of studying and succeeding in engineering.

“Headstart firstly gave me the courage in my convictions; that I was both interested in and capable of studying and succeeding in engineering.

It highlighted to me some areas I would have to work on before applying and attending university, but also showed me that I was much more capable than I had given myself credit for which then made applying to university courses much less stressful. Following my experience, I had the confidence I needed in both my personal statement and in interviews. It also gave me a taster of university life, making the transition later slightly easier.”

Anna is now currently in her third year at the University of Manchester studying Mechanical Engineering, and her subject focus is currently with Biomedical Engineering and Tissue Engineering.

94%

...of teachers thought their pupils had a better idea of the careers that exist in the digital and technology sectors

43%

...of students are female (Headstart programmes, students aged 16-17)



Invaluable mentoring opportunities developing industry professionals

Balfour Beatty

**Experience Days:
Bespoke programme**

Balfour Beatty is a leading international infrastructure group. They finance, develop, build and maintain innovative and efficient infrastructure that underpins daily life, supports communities and enables economic growth. Balfour Beatty have a long and successful working relationship with EDT. Rebecca Bernklow, Community Benefits Advisor at Balfour Beatty says:

“The knowledge and resources that come with running an EDT programme is fantastic and the events we have put on together have been a huge success.

The bespoke programme, STEM Horizons, that was created for our University of Strathclyde community benefits programme was a great fit. It allowed us to tailor what we were offering so that it tied in well with our objectives and timescale. Off the back of this we are running another 1-day engagement session for the same group of students.

The programmes that I have worked on have given me a great insight into engaging with students and setting up STEM events. This was something I did not have a huge amount of experience in. **Since the EDT programme I have been running numerous STE(A)M activities with more confidence.”**



...of the mentors felt that the experience had contributed to their own personal and professional development



Digital focused activities held across 7 cities in the UK



**Experience Days:
Bespoke programme**

TATA Consultancy Services (TCS) is one of the top 10 technology firms in the world, providing IT services, consulting and business solutions to global companies.

EDT helps TCS to reach their target group, which are young people from disadvantaged backgrounds. They also have a group of talented tutors who help deliver engaging sessions to young people across the UK.

TCS has worked with EDT on several Industrial Cadets accredited programmes, the largest being a bespoke programme, Digital Explorers. TCS Digital Explorers was a five-day programme that took place in 7 cities across the UK, where up to 1,000 young people took part during the week. Students had the chance to experience work whilst learning digital and employability skills and received an Industrial Cadets certificate at the end of the event.

“TCS has worked with EDT since 2015 and over 6,000 young people have taken part in an Industrial Cadets accredited event. Not only are EDT very professional, but they have great relationships with schools and organisations across the UK. Industrial Cadets provides young people with the opportunity to start building a CV at an early age, which is a huge advantage for when they are ready to join the world of work.” Camilla Carlslund, Corporate Sustainability Manager, TCS.



...of teachers thought that Digital Explorers is an effective way of getting young people to consider careers in digital and technology sectors



Supporting over 4,000 young people through Industrial Cadets



Experience Days & Projects: Multiple

The GFG Foundation has been a key partner for EDT for three years, and in that time have supported over 4,000 young people through Industrial Cadets Programmes, supporting, delivering and accrediting multiple programmes to help young people graduate as Industrial Cadets and demonstrate their skills and achievements.

Through mentoring and providing role models for groups of young people across the UK, the Foundation has created links with schools located in communities around 12 business locations. The linked companies have provided employee mentors to engage with young people, both in schools and through site visits and work experience.

The GFG Foundation has expanded engagement in each year of the partnership through delivering and accrediting activities at Industrial Cadets Challenger, Bronze, Silver and Gold level awards, broadening activity outside of the traditional school setting, supporting the Industrial Cadets Awards and developing a pilot for young people with autism.

“The GFG Foundation is passionate about inspiring young people into the world of STEM and so what better way to do this than by working with EDT to deliver the various Industrial Cadets programmes. **It is critical that we use these opportunities to equip young people with the skills and experiences that will help them to become our future scientists and engineers.**” Claire Neilson, GFG Foundation.



... of employers said that the students' contribution to the business has had a positive impact



Discovering new skills outside of the classroom



Project: Go4SET

Chesham Grammar School has worked with EDT on several STE(A)M-related programmes and the students have learnt many skills that they do not get the chance to experience during their normal schooling.

Dr Jasbir Lota, a chemistry and physics teacher and STEM advocate at Chesham Grammar School says, **“these skills have a massive positive impact on their future studies and without question these students outshine their peers not only in public examinations but choices beyond school.”**

He adds, “having moved school, I was keen to bring my STEM experience to Chesham Grammar School. This is my second year at CGS and already the impact of last year’s Go4SET (12 students) has been very positive on the students who completed their projects. This year I will have four groups of students from Year 9.”

These students have a very positive attitude towards school and have experienced the work of STEM practitioners. A few have enquired with their supporting companies for work experience.

Apart from learning many skills, the Year 9 students have become more confident and aware of the possible career paths they wish to take in the future.



...of our teachers say taking part in EDT programmes provides Continued Professional Development



Helping students realise their potential



Placements:
Year in Industry

Abike applied for an internship with Rolls-Royce through EDT's Year in Industry (YINI) programme. Usually, interns complete their Industrial Cadets Gold level award over the duration of the year-long internship, however with Abike seizing opportunities and pro-actively taking on challenging projects, she completed her Industrial Cadets Gold level Award in just a month!

As a result of her Industrial Cadets experience, Abike returned to Rolls-Royce on their Operations Management graduate scheme after completing university. She gained broad experience in operations – from assembling and testing of jet engines, to the manufacture of combustors further up the supply chain. ***“The Industrial Cadets programme helped me realise my potential at internship level and build my confidence in myself to gain the graduate role.”***

Abike has completed the Industrial Cadets Gold, Platinum and Platinum Leader level Industrial Cadets awards. She was awarded Industrial Cadets of the Year 2018 by HRH The Prince of Wales.

“Industrial Cadets is a great way to start exploring who you are, what your key skills are, your interests, and what you want or do not want in a career.”

Due to the invaluable experience Abike gained on her internship and graduate scheme, she was recently offered a fantastic new role at managerial level at Amazon.



...of students agreed that they have learnt more about career opportunities available during their Industrial Cadets experience



Learning about different pathways into STEM



DENSO

Experience Days:
Work Experience

The Hadley Learning Community team won the Industrial Cadets Silver level award for their impressive 'Seek a Shelter' project at the Industrial Cadets Awards 2019. They were also finalists at the Teen Tech Awards 2019 and winners of the best team for Shropshire star STEM challenge.

The all-girls team worked with Denso and Avara Foods to complete an Industrial Cadets project supporting the homeless by developing and creating a temporary shelter. The team were creative with their design using free sustainable materials and worked tirelessly for 8 months in their own time.

During their STE(A)M experience, they learnt first-hand about the STEM industry, the different career paths possible as well as developing their teamworking skills. One of the team members, Beth said ***“before doing the Industrial Cadets experience, I thought that going to university was required of anyone wanting to pursue a career in STEM, but now I realise that there are other options that can be taken, like apprenticeships.”***

The team have had a huge impact on their local community as this work experience allowed them to work with the homeless, people in poverty and rough sleepers. They have provided shelters, education plans and care packages to those in need to try and support them to become more valued and productive members of society. The students were very passionate and grateful for this insightful experience.



...of EDT students have a greater awareness of STE(A)M related courses and careers

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