

Primary Engineer®
...the first step



Primary Engineer® Annual Report

2024-2025

#EngineersInTheMaking



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scan or click to listen



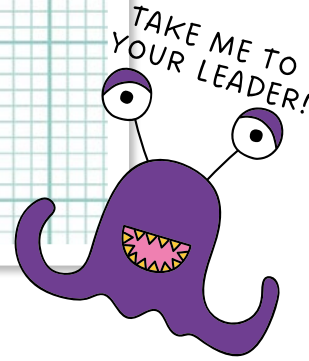
SERIES 3 EPISODE 1: UP, UP AND AWAY!
WITH CARL ROBERT SHAW

IF YOU WERE AN
ENGINEER
What would you do?

Podcast series
3 launched



Introduction from our CEO



 primaryengineer



Welcome to the Primary Engineer Annual Report for 2024–25. Looking back over what has been an extraordinary year, we have seen numerous highlights, many of which are shared here, and even more can be found on our website and social feeds. Our report considers the stories alongside the statistical impact on the people we have worked with, but the standout statistic for me this year has been from the teacher surveys, which showed that two-thirds of pupils behaved better in class when taking part in one of our programmes or competitions. That's quite a statement and is indicative of the true value and impact that placing engineering at the heart of the primary curriculum can have. I am, of course, not saying engineering should be at the exclusion of other subjects, but its inclusion and integration heighten the creativity, problem solving, resilience, design and practicalities of the topics and approaches we have designed for the pupils.

In 2024–25, we looked again at the teachers and their knowledge base. We developed qualifications to not only support adopting a STEM curriculum in their school but also through the 'Engineering A Career' course to demonstrate how engineering can be found in every subject. We see a narrowing of choices and, therefore, aspirations of young people as they progress through education. There is a lack of awareness of the breadth of engineering and the diversity of thought and skills the sector requires, which could be addressed by inviting teachers to look at how their subjects and the pupils who enjoy them could find their way towards engineering, taking that specialist knowledge with them.

Innovation is the beating heart of Primary Engineer, be it in the programmes we design or the methodologies we employ to bring engineering to as wide an audience as possible. 'Deep Sea Deep Space', which launched this year, looks at the intersection between extreme environments and has been met with enthusiasm from primary school pupils and teachers. The 'Primary Engineer MacRobert Medal' has this year reached an even greater height, with Rebecca Young being named TIME magazine's 'Young Girl of the Year' for designing a Solar Powered Heated Blanket for homeless people, realised by the Thales team in Glasgow. The Primary Engineer MacRobert Medal sits on the shoulders of the 'If you were an engineer, what would you do?' competition, where every participant is recognised for how they have used engineering to solve the problem they have identified – true innovation from grassroots up!

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Our audience is growing, and our schools are thriving on the impact of the programmes, qualifications and competitions we have designed and deployed with the superb support of our funders and supporters. Hats off to the Primary Engineer Team and Advisory Board – we are very much looking forward to what's next!

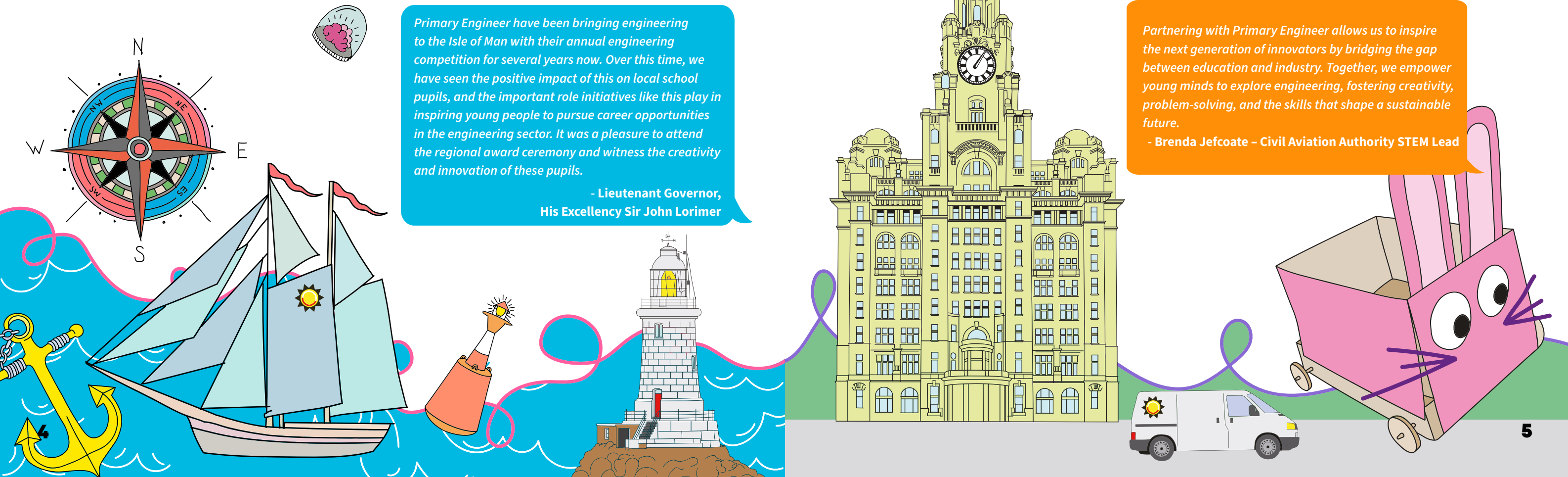
Dr Susan Scurlock MBE, Founder & CEO Primary Engineer®

Primary Engineer have been bringing engineering to the Isle of Man with their annual engineering competition for several years now. Over this time, we have seen the positive impact of this on local school pupils, and the important role initiatives like this play in inspiring young people to pursue career opportunities in the engineering sector. It was a pleasure to attend the regional award ceremony and witness the creativity and innovation of these pupils.

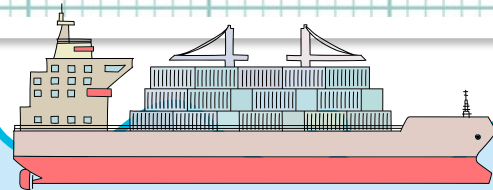
- Lieutenant Governor,
His Excellency Sir John Lorimer

Partnering with Primary Engineer allows us to inspire the next generation of innovators by bridging the gap between education and industry. Together, we empower young minds to explore engineering, fostering creativity, problem-solving, and the skills that shape a sustainable future.

- Brenda Jefcoate – Civil Aviation Authority STEM Lead



Our Reach across the UK



Primary Engineer®
...the first step

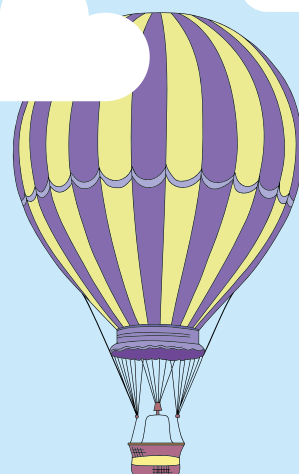


Our approach allows our activities to reach particular areas and communities to close inequality gaps and widen ethnicity representation.

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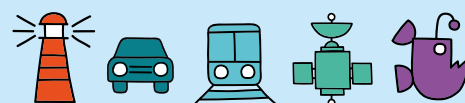


#EngineersInTheMaking



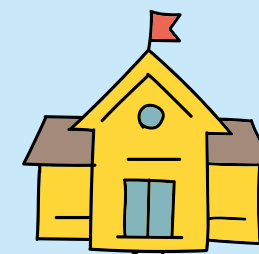
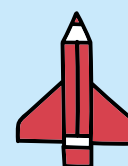
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Teacher Training Sessions



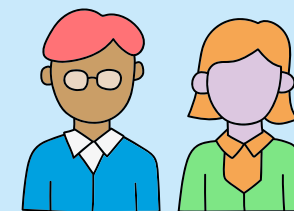
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Award Ceremonies & Public Exhibitions



Schools

1,996



Teachers

6,059



Total Pupils

108,395

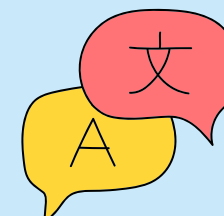
Gender Split (boy:girl)

51/49



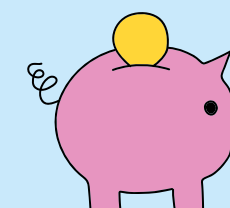
Pupils deemed other ethnic origin:

29%



Pupils whose first language is not English:

15%



% of schools engaged are in the third most deprived index (1-3):

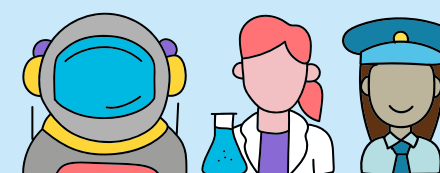
39%



% of pupils eligible for free school meals:

33%

based on IoD2019/WIMD2019/SIMD 2020v2/NIMDM2017



Engineers

2,384



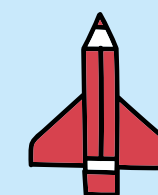
Pupil hours engagement with engineering

775,886



Events

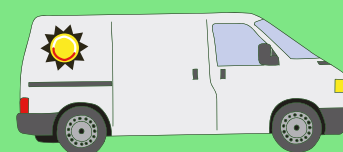
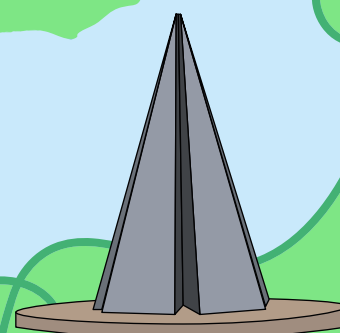
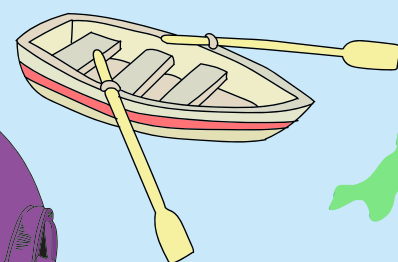
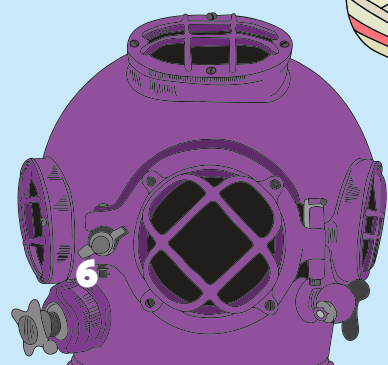
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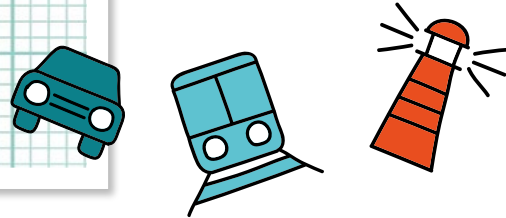
Leaders Award Regions

25

IF YOU WERE AN **ENGINEER**
What would you do?



Programmes



Our Primary Engineer® Programmes allow classes in lower primary (Key Stage 1) and upper primary (Key Stage 2) to take part in practical projects, building the confidence of teachers delivering STEM-based classroom activities that focus on engineering and raising the aspirations of pupils.

In total, we saw **31,385 pupils, 1,528 teachers** and **453 engineers** take part in our Programmes throughout the year. This included **70 teacher training events** and **31 celebration events** across the UK, which resulted in an incredible **313,851 classroom hours of pupil engagement with engineering.**

In each Programme, up to two teachers from each school are trained and provided with comprehensive classroom resources, curriculum mapping, a physical kit and tools for up to 30 builds to allow 60 pupils working in pairs to link with engineering professionals who provide hands-on support and real-life examples of skills development.

These Programmes are delivered in themes, currently these are Rail, Vehicle, Construction and Early Years Engineers. They are designed to inspire an interest in learning all aspects of engineering skills from an early age.

The culmination of our programmes sees pupils and teachers come together for a Celebration Event that puts the pupils' engineering skills to the test. In a morning of organised chaos and fun, pupils put their engineering builds through a series of tasks to see how well they have been engineered. They are interviewed by engineering professionals about their experience, what they enjoyed most and how they would improve next time, allowing them to express what they have enjoyed most about their engagement with engineering. This year, we further expanded our in-school celebrations, enabling teachers to champion all the pupils in their class while still being linked to industry professionals who judge the quality of the builds and listen to how much the pupils have learnt.



As a result of our programmes, pupils have become more aware of careers in engineering and the skills required to think like an engineer. We have also seen an impact on teachers, with many taking part reporting an increased confidence in delivering maths, science, design & technology and engineering in the classroom.

We have also continued to challenge gender stereotypes in the engineering profession, with our activities being delivered to the whole class. We hear awe-inspiring stories of pupils who have typically struggled in class excelling in a more practical activity, older pupils becoming leaders in the classroom as they guide peers, and the overwhelmingly positive impact this programme has on class behaviour.

Our Primary Engineer® Programmes are available across the UK thanks to the support and commitment of our funders. Hundreds of schools are already taking part across the UK, and you can learn more about them here:

www.primaryengineer.com/programmes/

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Scan or click to watch the Silverstone Technology Cluster Primary Engineer Celebration Event

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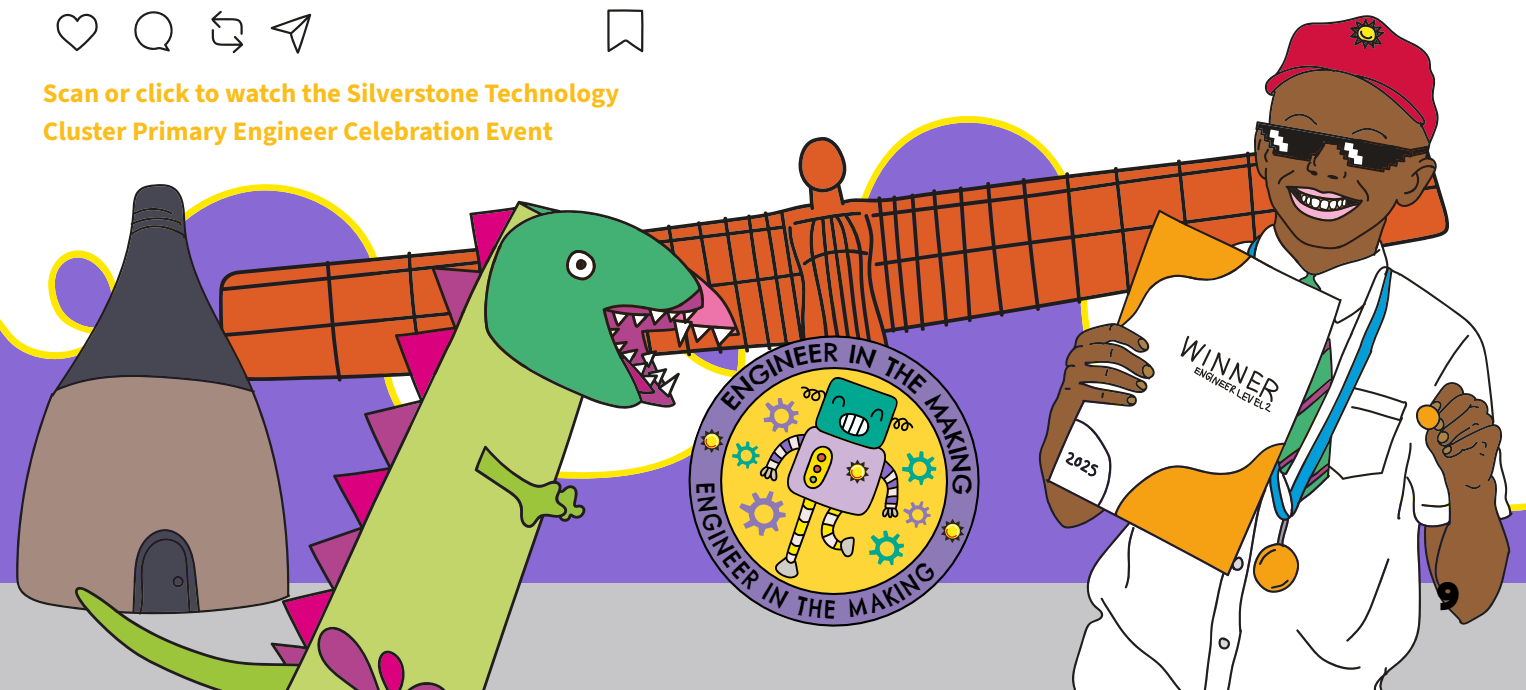


"Brilliant Organisation. I have been entering my classes into their competitions for over 10 years, always well run, great communication and friendly. Outstanding free CPD training to develop fantastic, engaging activities with the kids, as well as providing the necessary resources. Could not recommend more highly."

- Steve, Teacher, Google review

The children were delighted to have made a working model which moved. One of the children who struggles with reading and writing was one of the most logical and practical team members who was able to trouble shoot effectively and with common sense to help his own team and others. It was lovely to see his confidence in this project help his self esteem to grow.

- Nicholas, Teacher, Kingsbury Green Primary School



Competitions

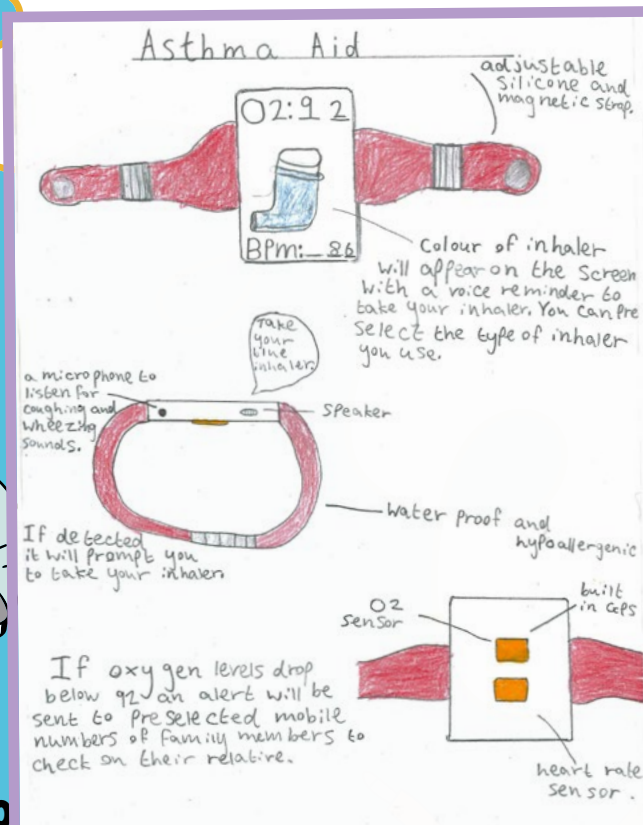
Our 'If you were an engineer, what would you do?' Leaders Award Competition is a UK-wide competition open to all pupils aged 3-19.

In total, we saw **70,381 pupils** and **4,272 teachers** take part in the competition, with **51% of participating pupils being female**, resulting in a total of over **422,286 pupil hours of engineering**. We also brought together **1,719 engineers** to inspire pupils, support us at **47 grading** and **judging days**, and celebrate the pupils, teachers and schools at **25 award ceremonies** and **public exhibitions** across the UK.

Pupils are tasked with interviewing an engineer before being asked to identify a problem in the world around them and coming up with a creative, engineered solution to that problem.

Teachers get the opportunity to be introduced to an engineer and bring them into the classroom or take the class, and on occasion, the whole school join one of our high-profile live interviews, giving them the opportunity to ask the questions that matter to them. This introduces them to inspiring people they can identify with, helps broaden knowledge and career aspirations and dismantles stereotypes.

Asthma Aid, Eliza P, Year 7



IF YOU WERE an ENGINEER What would you do?

Scan or click to watch our live or pre-recorded interviews below



We conducted **18 live interviews with engineers** from a wide range of background and industries, with over **45,000 pupils joining us live from across the UK**. The 2024-25 live interview series featured a NASA scientist, the 2024 winner of the Top 50 Women in Engineering Award, the world's greatest watchmaker, one of the UK's only female rail freight drivers, and many more.



Engineer grading days for the Leaders Award Competition

Once they have interviewed an engineer, pupils start looking at the world around them to see if there is a problem they can solve with engineering. They create an annotated drawing of how their idea would work and write a letter to an engineer explaining why their idea should be built. All entries are read and graded by engineering professionals, with every single pupil who takes part receiving a named and graded certificate. They are graded based on the quality of the idea and the problem, large or small, that it is solving. Shortlisted entries are then sent to exclusive judging days where the invited judges, formed from leading industry and engineering professionals, select the designs to be celebrated at our 25 regional Award Ceremonies.

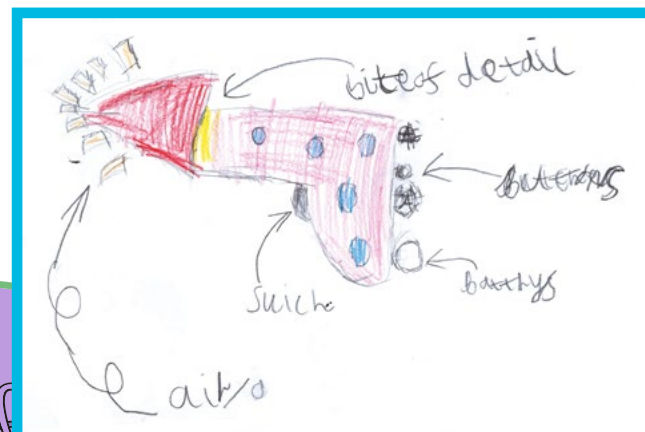
The competition culminates in exciting regional public exhibitions and award ceremonies, where teachers, pupils, their families and industry professionals are invited to celebrate ingenuity and create lasting memories. The shortlisted designs are displayed, and the winners and those who are highly commended are invited on stage to receive their awards, with a surprise award for the judge's favourite at the end.

Each year, our university and industry partners choose from thousands of shortlisted entries submitted by pupils across the UK, which are displayed at our public exhibitions, to turn into a prototype. This year saw **17 prototypes** unveiled at these exhibitions and award ceremonies, all based on ideas from last year's competition. They were built by teams of students, early career engineers and apprentices working alongside the pupils who originated the ideas. You can learn more about this in the 'ProtoTeams' section of this report.

Overall, this competition has once again had a positive impact on teachers, pupils and schools. Participating teachers reported an increase in pupil understanding about the importance of engineering and awareness of careers in engineering, and they have enjoyed learning about the subject, inspiring them to learn more. This is a testament to the fact that this competition helps create engineers in the making.

The competition is now open across the UK for its 13th successive year. You can learn more and register your school here: www.leadersaward.com

1 Minute Hairdryer, Isabel, Year 2



"I'd not heard of Primary Engineer before but I'm so grateful that my son got to be part of their Leaders Award competition. The opportunity was delivered through school and it was just a casual task to get involved in over half term if we wanted to. My son came up with some great ideas and after putting pen to paper, he submitted his idea. We weren't expecting to hear back but it was such a lovely surprise to hear he had been shortlisted for the award ceremony at Kingston University."

We went along, with much excitement, to see that his design had been Highly Commended. He was awarded his prize by industry experts and we heard from some highly inspirational speakers. In a world where life is so busy, Primary Engineer restored our confidence in giving future generations a chance to shine. It really is a fantastic organisation and we will cherish the memories."

- Katie, Parent, Google review

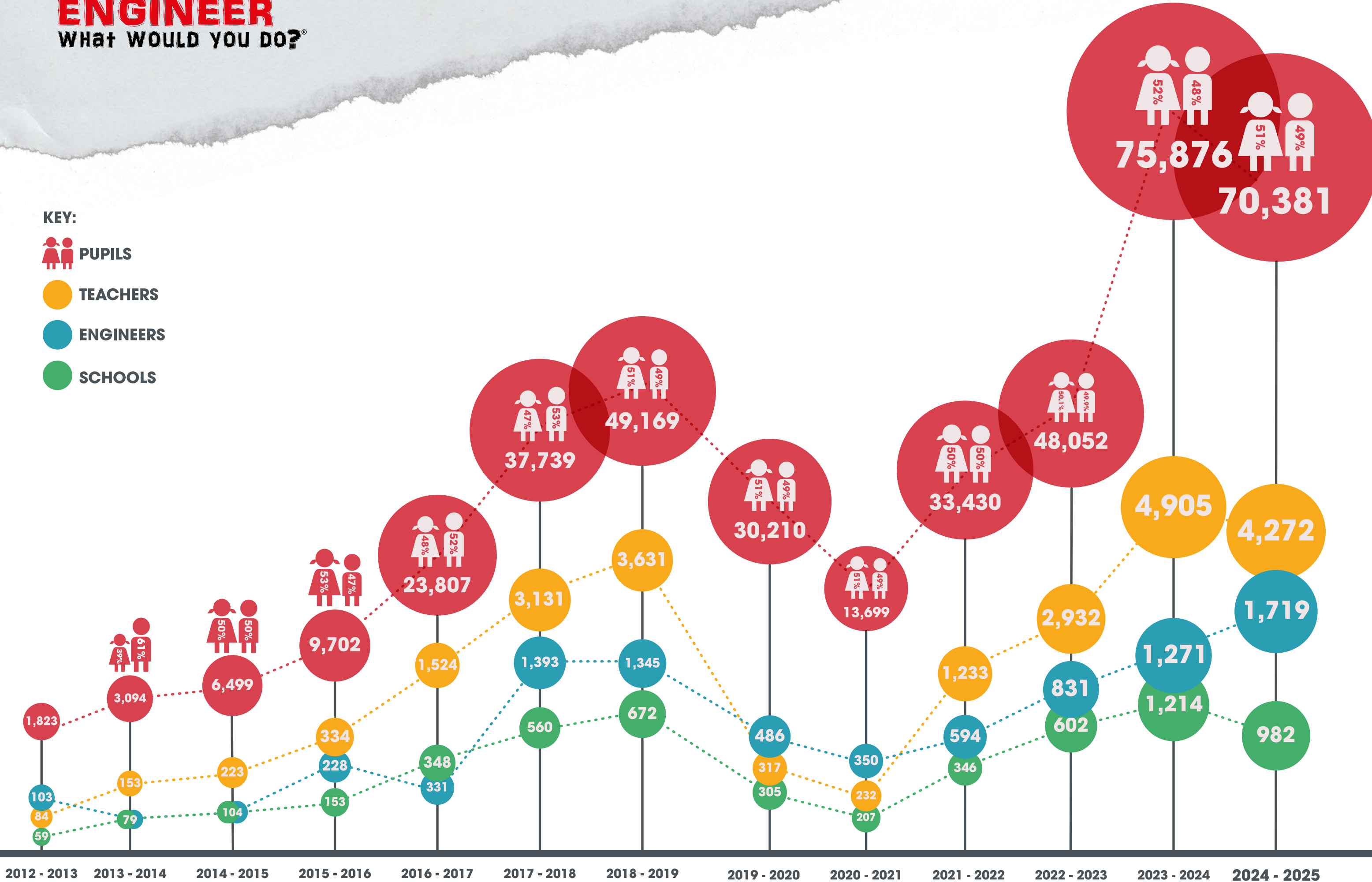


14 Burnley students prepped 6,000 pupil ideas for exhibitions!

IF YOU WERE an
ENGINEER
WHAT WOULD YOU DO?

KEY:

-  PUPILS
-  TEACHERS
-  ENGINEERS
-  SCHOOLS

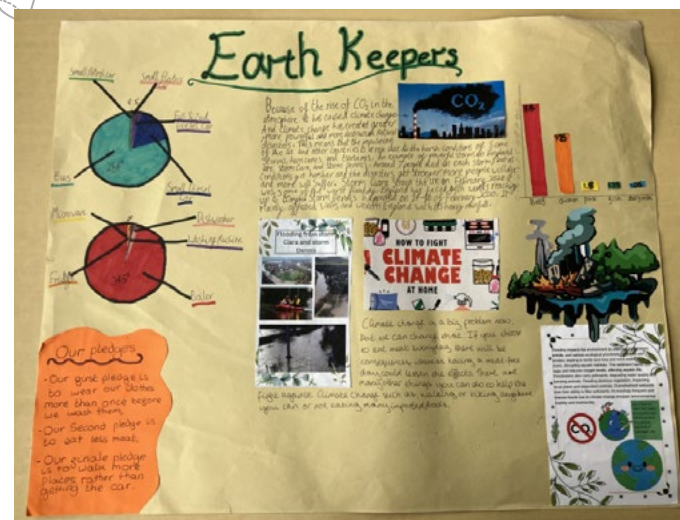


Competitions

STATWARS: Climate Change Challenge is a national data competition with multiple curriculum links to science, mathematics, computing, and engineering, as well as English and geography. In total, we saw 2,641 pupils from 91 schools take part in the 2024–25 academic year.

The competition empowers and educates pupils in upper primary (Key Stage 2) and lower secondary (Key Stage 3) to tackle climate change and influence others through social agency using data they capture themselves. Pupils use our carbon footprint calculator to work out their own carbon footprint, then use this data to identify three pledges they can personally make in their daily lives to help tackle climate change and encourage others to do the same.

Pupils write a letter to people of influence, such as their local MPs, and create posters, infographics and videos to explain what changes they are committing to make and why others should too. Some key themes we saw from the pupils this year were to shop locally, walk, cycle or take public transport to and from school and reduce electricity usage in the home.



I found the STATWARS Climate Change Challenge to be an enriching learning experience which helped pupils to engage and develop life skills across multiple curricular areas such as science, mathematics, computing and geography. This valuable opportunity also encouraged children to hone their Meta-Skills such as communicating, critical thinking, collaborating and leading. I would highly recommend this project to other educators as it offers a purposeful approach for teaching Math skills in relevant and intriguing context.

- Grant, Teacher, Crookfur Primary School

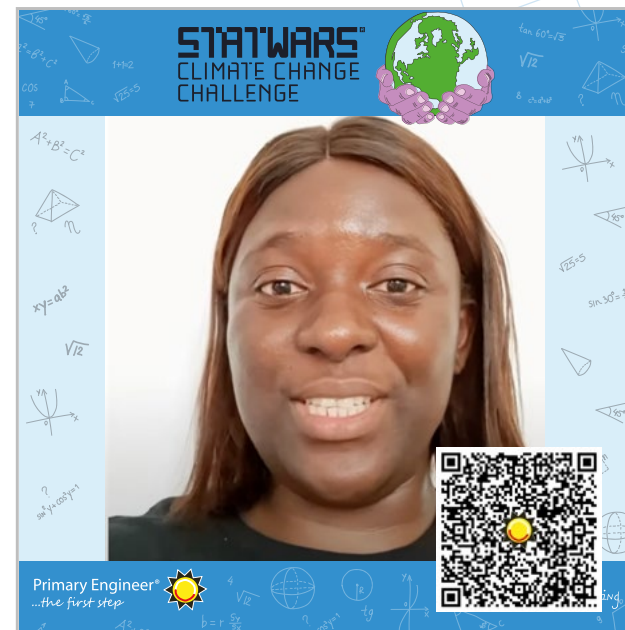
STATWARS[®] CLIMATE CHANGE CHALLENGE

Every single pupil who takes part receives a graded certificate and a share of up to £5,000 of eco-prizes available to winning schools.

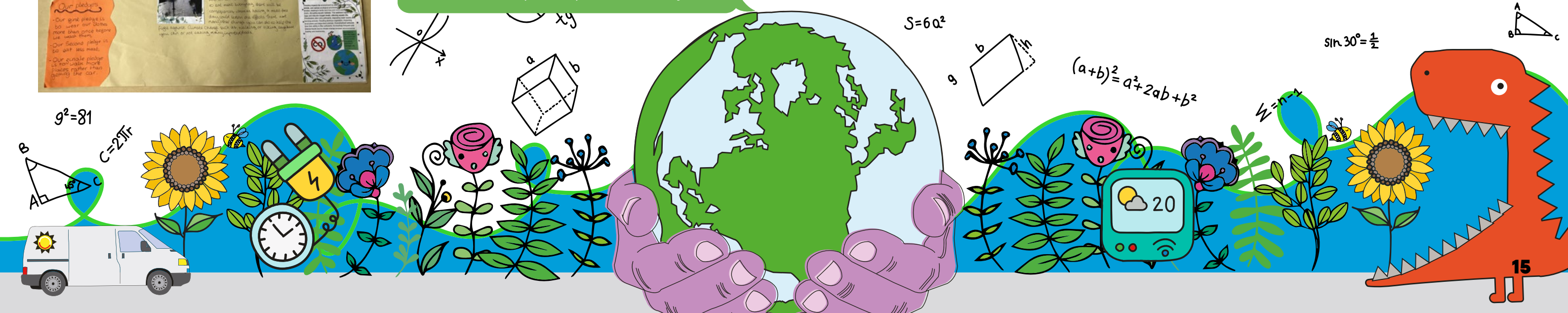
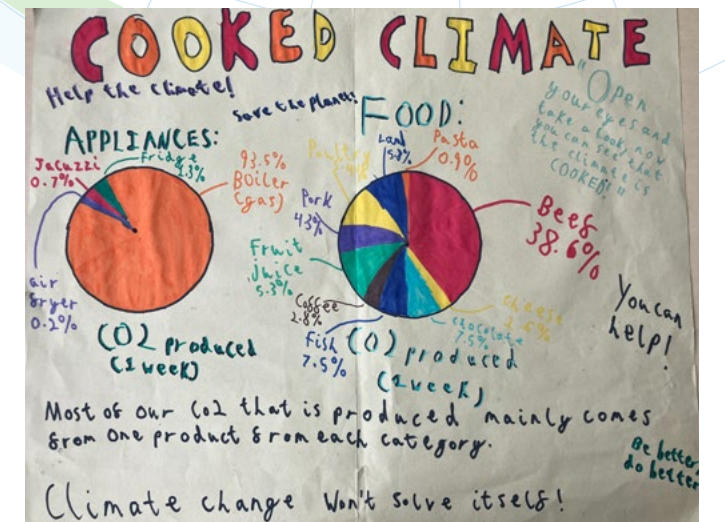
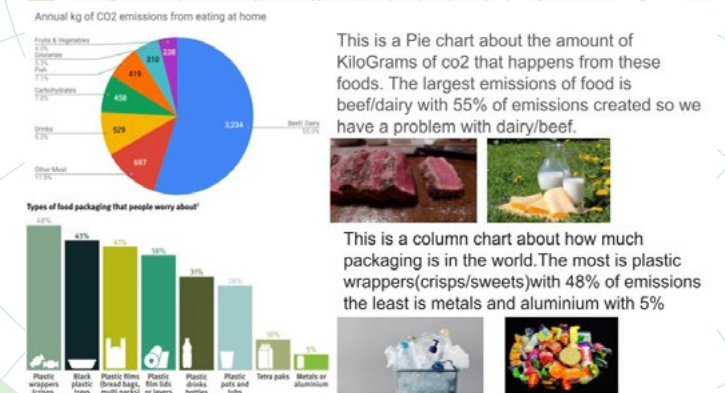
STATWARS ran across the UK in the 2024–25 academic year thanks to the support of the Royal Air Force Charitable Trust, Aggreko, Anglia Ruskin University, Northern Powergrid, Siemens and SSE Renewables.

To enhance and deepen the learning, our STATWARS partners produced engaging video content to highlight data engineers at their company explaining what they do and sharing what pledges they'd make and why.

Scan or click to watch them below:

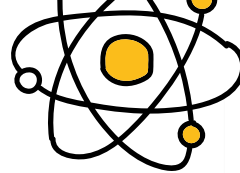
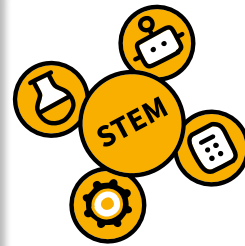


The competition for the 2025–26 academic year is now open and running in schools across the UK. You can learn more and register your school at www.statwarscompetition.com





Qualifications: Engineering STEM in the Classroom



Qualifications



Engineering STEM in the Classroom took part in an exciting initiative in 2024–25, delivered as part of a two-year project with SSE Renewables Green Highland Skills Pathway in the Scottish Highlands & Islands. This was a joint initiative between Primary Engineer, Young Enterprise and the Science Skills Academy, funded by SSE Renewables, which was developed to empower schools and students by providing relevant, future-focused learning opportunities that align with sustainability and workforce development goals.

Engineering STEM in the Classroom enabled participating teachers to gain a deeper understanding of engineering, career paths within the field, and strategies to create a STEM-focused curriculum that supports their students' learning and engagement. Teachers learned how to embed the **Engineering Habits of Mind** into their teaching, which specifically highlighted creative problem solving, systems thinking, problem finding, visualisation, adapting and improving. As part of the SSE Green Skills Pathway, it also incorporated our STATWARS: Climate Change Challenge, which allowed teachers to further embed climate change learning into their classroom teaching.

The teachers who participated in the course were able to successfully reflect on and evaluate their current approach to STEM delivery in their school, explore ways to incorporate STEM into all areas of learning and develop a plan to present to school leadership for embedding this STEM-first approach across the whole school. Engineer engagement was also core, with teachers and pupils being able to engage with engineers to understand how the skills they were learning applied to the real world.

Engineering STEM in the Classroom will continue in the 2025–26 academic year, fully funded by SSE Green Skills Pathway and SSE Hydro Fund, for teachers and practitioners in the Highlands & Islands and Argyle and Bute.

The knowledge I have gained will be invaluable in terms of the support I will be able to offer my students. I feel more confident to talk about engineering and STEM careers now and I have clear next steps that I can take in terms of the development of our school careers programme.

- Molly, Teacher, Coal Clough Academy

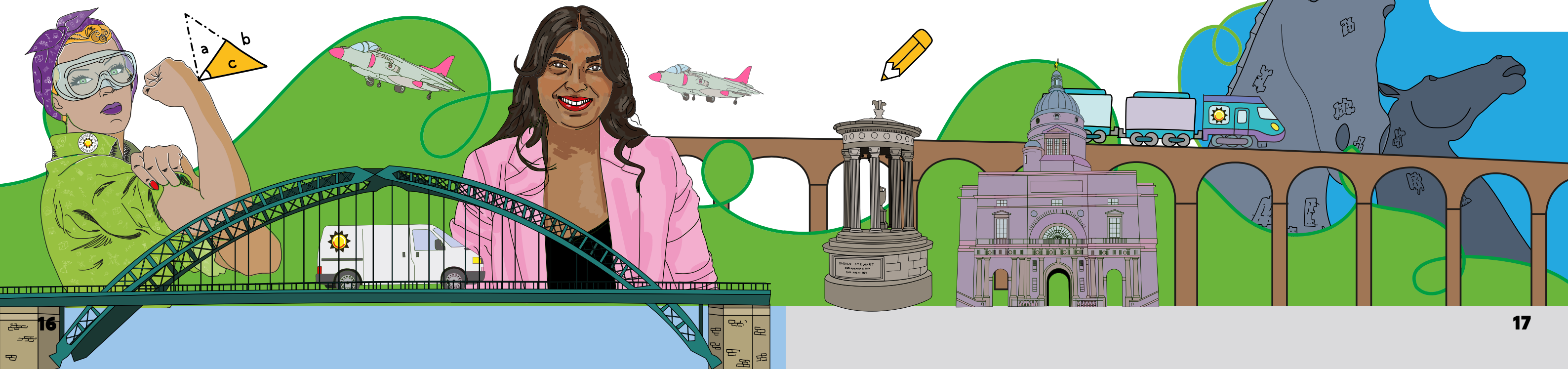
Engineering a Career is a CPD-accredited qualification that significantly expanded in the 2024–25 academic year with support from the RAF Charitable Trust and Ford Philanthropy, allowing us to offer fully funded places and bursaries to teachers and career leads across the UK. In total, we saw 109 teachers take part, supported by six engineers.

The core of 'Engineering a Career' is the belief that every pupil has a place within the world of engineering, no matter what their strengths are, and it focuses on helping teachers understand how they can identify which engineering career their pupils are best suited for. For pupils whose creativity shines, those who love to discover how things work, those who ask questions and enjoy problem solving and those who see the beauty in design, Engineering a Career helps teachers guide those pupils on a path best suited for them.

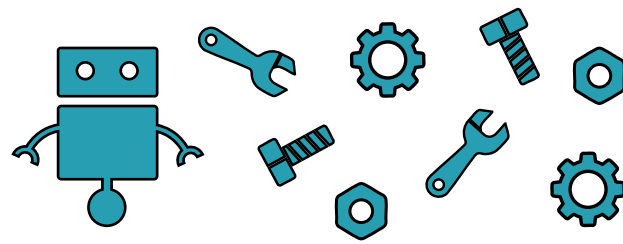
The course not only gives teachers engaging and practical ideas to develop primary and secondary pupils' engineering skills and mindsets and foster their interest in engineering, but it is also an opportunity to engage directly with engineering professionals through site visits. This allows teachers to build connections with organisations in their community that can continue to engage with the school long after the teacher has completed the course and informs them about the different pathways active professionals have taken, which can help them better signpost career paths for their pupils.

One of the most memorable moments from the course was seeing a group of students, who initially had little interest in engineering, become completely engaged in a hands-on challenge. A particularly inspiring moment was when a Deaf student, who often struggles with confidence in group settings, took the lead in designing and explaining their team's project. The collaborative nature of the activities empowered all students to contribute their ideas, and by the end of the course, many expressed excitement about engineering as a future career. Seeing their confidence, teamwork, and problem-solving skills grow was truly rewarding.

- Sneha, Teacher, Kingsbury Green Primary School



ProtoTeams



Primary Engineer ProtoTeams form part of the ‘If you were an engineer, what would you do?’ Leaders Award Competition, furthering engagement between schools, pupils and our university and industry partners. ProtoTeams select from a range of shortlisted pupil ideas and drawings, choosing one to prototype, taking it from paper to reality in a journey of pure innovation.

The teams engage with pupils and schools to showcase how engineering can bring their ideas to reality, working with the pupils as the clients and ensuring they build the prototype as close as they can to the original design. ProtoTeams are also encouraged to provide updates to Primary Engineer, enabling a wider audience of schools, the industry and the general public to also follow the build. The engineers working in the

ProtoTeams experience the challenge of thinking outside the box, with ideas that can be staggeringly simple or, conversely, complex to design and build. Teams include students, technicians, graduates and apprentices, who incorporate the prototype into their studies and career development.

After the prototypes are unveiled at our exhibitions and awards ceremonies in the summer term, applications open for the Primary Engineer MacRobert Medal, a collaboration between Primary Engineer and The MacRobert Trust to recognise the innovation and creativity of the next generation of engineers.

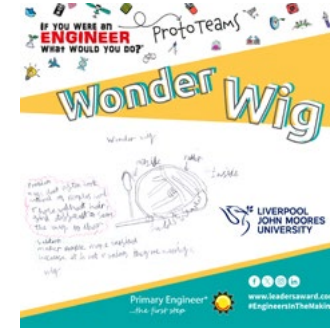
This year, 16 ProtoTeams were shortlisted, with medallists being announced in London on the 17th November. You can see the full list of medallists and learn more here: www.primaryengineer.com/primary-engineer-macrobot-medal/



Anglia Ruskin University
‘Moving Bunkbed’ by Poppy,
Year 1



Canterbury Christ Church
University ‘Medication
Calendar’ by Adele, Year 7



Liverpool John Moores
University ‘Wonder Wig’
by Alfie, Year 6



Isle of Man Chamber of
Commerce ‘Magnetic Coaster
(for Space)’ by Eryn, Year 3



Ulster University ‘Titanium
Brace Knee Protector’
by Blake, Age 9-10



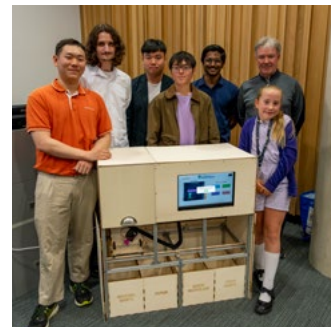
Aveva ‘Heat Sensor’ by Veda,
Year 2



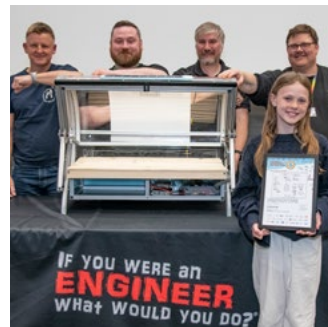
Thales – Glasgow ‘Jump
Charge’ by Adam, Primary 5



Thales – Glasgow
‘Focus Band’ by Sophia,
Primary 3



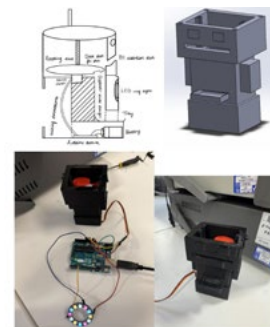
University of Southampton
‘4 Bin Swopper’ by Maisie,
Year 3



The University of Edinburgh
School of Engineering
‘The Bench Bed’ by Libby,
Primary 7



Civil Aviation Authority
‘The Attaching Suitcase’
by Anna, Year 4



Edge Hill University
‘Bacteria Robot’ by Oscar,
Year 2



Thales – Crawley
‘Hummingbird 3000’ by
Alexander, Year 5



Thales – Templecombe
‘The Reach-Up Wheelchair’
by Sophie, Year 4



Thales – Cheadle ‘Rainbow
Glasses’ by Millie, Year 5



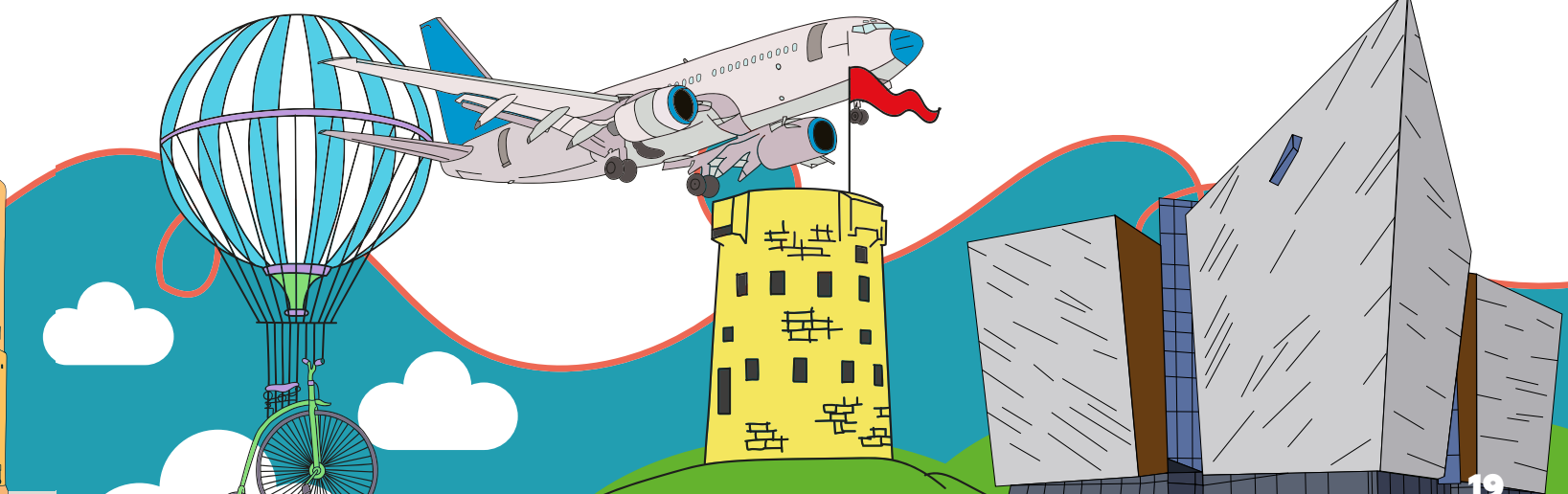
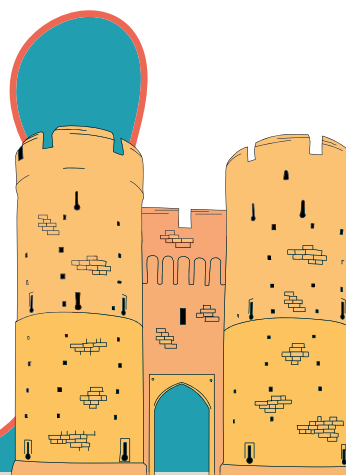
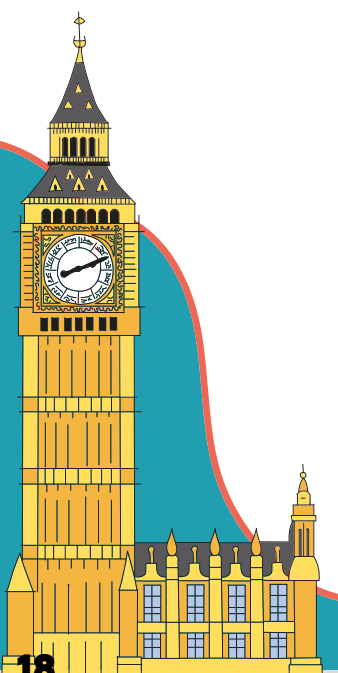
Thales – Belfast ‘I can swing’
by Malachy, 8-9 Years



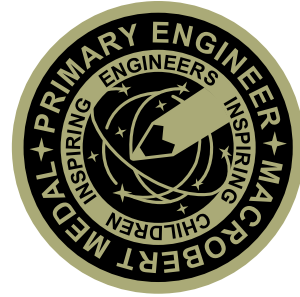
Kingston University – London
‘Home Plastic Recycling’
by Emmelyn, Year 3



Kingston University – Jersey
‘The Safety Cycle’
by Savannah, Year 5



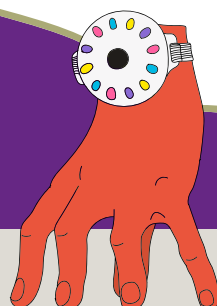
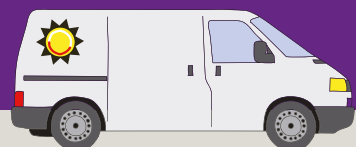
Primary Engineer MacRobert Medal



Each year, our university and industry partners choose from thousands of shortlisted entries submitted by pupils across the UK, which are displayed at our public exhibitions, to turn into a prototype. They form ProtoTeams who work with the pupils who originated the ideas to turn their designs into reality. In 2024, 24 prototypes were built, 17 were shortlisted and 10 were medallists. You can see the full list of winners and learn more here: www.primaryengineer.com/pemm24/

The Primary Engineer MacRobert Medal is a collaboration with The MacRobert Trust and acts as the forerunner to the illustrious MacRobert Award, the leading prize for engineering innovation in the UK. Our annual ceremony sees Gold, Silver and Bronze medals awarded to the prototypes that demonstrate creativity, innovation, public engagement and links to the industry. These are judged by senior figures from the industry, education and government, with an award ceremony hosted in November.

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"Creating mining technology for a more sustainable future lies at the heart of what we do at Weir. We must think differently and challenge the way things have always been done. That aligns well with Primary Engineer's initiative to harness the imagination and creativity of school children to innovate and invent solutions to everyday challenges. It has been incredible to see first-hand how the ProtoTeams use their engineering skills to bring the best ideas to life and then recognise and celebrate the best innovations with the prestigious Primary Engineer MacRobert Medals. Weir has been working with Primary Engineer since 2018 to develop innovation, and I'm personally delighted to be involved again. We can't wait to see how the next generation of talent develops novel solutions for the world's most pressing economic and sustainability challenges."

- Jon Stanton – Chief Executive Officer at WEIR Group PLC

In November 2024, we hosted the prestigious award ceremony in the Barony Hall in Glasgow, where **10 Prototypes were celebrated and awarded medals**. This event also saw the introduction of our **new Commendation Award**, which is decided by **public vote, with over 2,500 votes** cast.

The Primary Engineer MacRobert Medal continues in 2025 with the support of The MacRobert Trust, WEIR Group and Christopher Ward, with the Official Award Ceremony taking place in London on the 17th November.

Scan or click below for Primary Engineer MacRobert Medal 2025

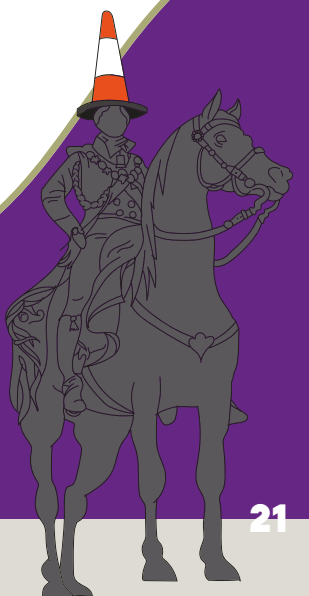
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New in 2024-25

This year, we successfully completed our pilot of Deep Sea Deep Space, a new programme from Primary Engineer that allows pupils to explore the depths of the ocean and the vastness of space.

This programme is now ready to launch, and Primary Engineer is actively looking for partners to help us bring this programme to primary schools across the UK.

The pilot programme, which was funded by the RAF Charitable Trust, was delivered in 15 primary schools in the Lancashire area and saw teachers come together for an interactive training day. They provided ongoing feedback throughout the pilot to enable the programme to be refined and updated to perfectly suit the needs of primary school teachers and their pupils.

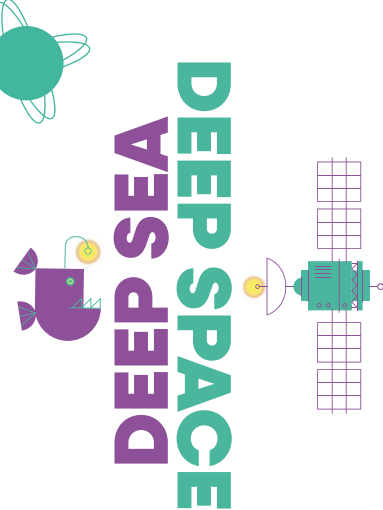
Participating teachers and pupils took part in hands-on learning by building amazing Deep Sea Creatures and Deep Space Craft, all while learning about the engineering secrets of sea and space. This includes learning about the technologies we use to explore and understand these extreme environments, what it takes for humans to live and work in them and how Deep Sea and Deep Space continue to support life on Earth today.

Alongside the physical builds, teachers were provided with curriculum-mapped classroom resources, including additional learning games and activities, such as our **SUPERCARDS**, which contain age-appropriate information and statistics about **12 spacecraft and 12 sea creatures**.

We also took a new approach to celebration events, allowing pupils to join a live, interactive mission. 'Mission: Explore' successfully engaged children in virtual journeys to the depths of the ocean and to the dizzy heights of deep space. Pupils learned more about these extreme environments as well as the engineering and technology that links them. Pupils were also celebrated for their efforts, mindset and engineering skills, which they demonstrated when building their Deep Sea Creature or Deep Space Craft.



Thirty primary school teachers participated in an interactive training day for the Deep Sea Deep Space Pilot Programme at the Primary Engineer headquarters in Burnley, held in January 2025.



January Deep Sea Deep Space Pilot

Making Headlines

A particular focus for this year was tapping into the power of sharing stories that inspire and make a difference. This section is a showcase of some of the fantastic stories and features that highlight our mission in action. From national newspapers to industry-leading magazines, the past year has been a whirlwind of recognition for our brilliant activities, our partnerships and the stories about all the engineers in the making.

Highlighting Our Mission in Industry-Leading Magazines

Primary Engineer has been featured in many industry publications, including Global Railways Review, AMPS Power, and Engineering Designer. These articles focused on topics such as the importance of early engagement to break down barriers, why igniting a passion for engineering in UK schools is vital for the future of the industry, and how we're inspiring the next generation of engineers.



A National Story: Scottish Schoolgirl Named One of TIME magazine's 'Girls of the Year'

As featured by TIME magazine, the BBC, the Guardian and many others.

The success story of Rebecca and the ProtoTeam at Thales is nothing short of incredible! What began as a simple, heartfelt idea to help people experiencing homelessness to stay warm has blossomed into something truly show-stopping.

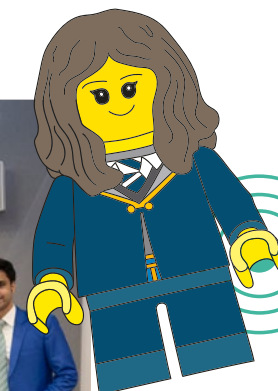
Over two years, Rebecca's idea was developed into a prototype by a team of early years careers engineers and apprentices at Thales, awarded a silver medal and the first-ever Commendation Award at the 2024 Primary Engineer MacRobert Medal Award Ceremony, and 150 of the blankets were made and donated to Glasgow homeless charities.

Recently, Rebecca was named by TIME magazine and Lego as one of 10 global female young leaders.

Word of this feel-good, impactful story spread across cities and countries, with many news outlets and social media accounts praising the idea. Rebecca's story is a shining example of how a great idea can turn into a real-world solution that changes lives.



Scan or Click above to read the full story



Other Features

We were also delighted to be featured in a recent Global Railway Review article that highlighted why nurturing the next generation is key to staying on the right track. You can read the full piece here:

www.globalrailwayreview.com/article/204855/nurturing-the-human-element-in-rail/

For two decades, Primary Engineer has been the go-to partner for companies looking to deliver meaningful STEM engagement, and it was a pleasure to be included in the Siemens Mobility Social Value Report which announced that £155,000 worth of Social Value had been created through their work with Primary Engineer. We've been bringing our Primary Engineer Rail Programme to classrooms in Goole since 2021, and we're so proud of the impact we're making together. Read their full report here: assets.new.siemens.com/siemens/assets/api/uuid:40df9492-9f9e-4382-9234-1e3fbc2217b6/SM-Social-Value-Report-2024_original.pdf

You can find all of these fantastic stories and more on our news page scan or click image:



Impact in Action

We don't just talk about inspiring the next generation of engineers - we make it happen.

We believe our impact is best told through the voices of those we work with which is why this year case studies became a focal point. Our case studies are more than just success stories though; they are a testament to the transformative experiences of pupils, teachers, partners, volunteers and parents. Each one highlights the unique goals of our audience and demonstrates how we collaboratively bring about positive change. From fostering a growth mindset in a single classroom to launching a student's engineering career, these stories showcase the trust placed in us and the real-world results of our innovative approach.

If you have worked with us and want to share your experiences, contact us on marketing@Primaryengineer.com

GKN Aerospace have been partnering with Primary Engineer since 2021 during which time we have had the privilege of engaging in many amazing and fun Primary Engineer led STEM activities. Elliot's story is a fantastic example of how a successful and collaborative partnership can lead to a really positive outcome, inspiring the next generation of engineers is crucial for the continued success of our industry – GKN Aerospace is delighted to have Elliot as one of our team!

- John Watton, Technical Capability Director at GKN Aerospace



Scan or click image above for our case studies

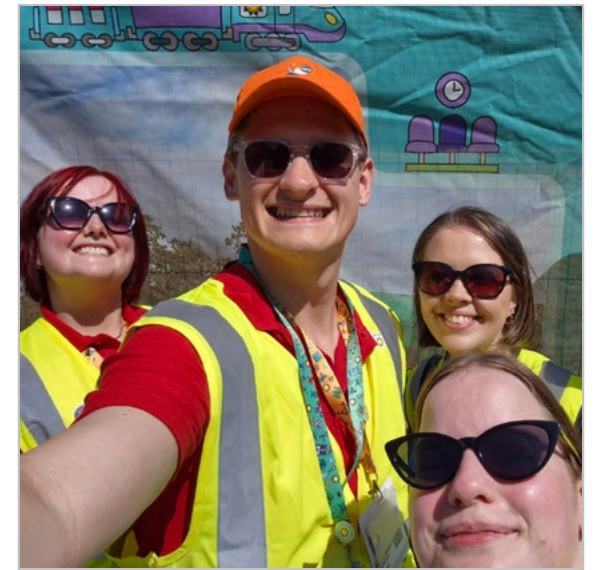


Events and Conferences

Connecting with Industry

Throughout the year, we participated in some key industry events across multiple sectors, representing our partners and strengthening our position within the UK's engineering community. From major trade shows, such as the Engineering Design Show, industry award dinners and sector-specific conferences, such as the Local Council Roads Innovation Group's 'Strictly Highways', our presence ensures we stay at the forefront of industry developments, emerging trends and opportunities for collaboration.

Our annual engagement at Rail Live, the UK's largest rail exhibition, saw us once again partner with Porterbrook and Bauer Media to bring 30 primary school pupils on site over two days to tour the exhibition and take part in a timed challenge with industry leaders and government. Special arrangements had been made to allow under-18s on site, so the pupils walked around like VIPs, catching the attention of all the exhibitors, who were quick to show them their role in the Rail sector. With glowing reviews from pupils, teachers and engineers, this event acted as a testament to the fact that young people can be inspired by engineers and, in turn, those engineers can be inspired by seeing the impact this engagement has on the young people who see their work in action. The more they get to engage with the sector, the more they can understand that there is a place for them within it.



We are very proud of our continued support for the Primary Engineer programme. Together we have reached over 1,500 children in the region, supporting the creation of the next generation of technicians and engineers!

- Mark Speed, Director and General Manager, Siemens Mobility

Engaging with Educators

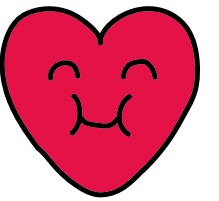
We make it a priority to attend educational events that bring together teachers, school leaders and decision makers in the education sector. Whether at national conferences, local authority gatherings or subject-specific forums, we ensure our programmes, resources and opportunities are front and centre for the educators shaping the next generation.

These events allow us to share success stories, gather valuable feedback, and deepen our understanding of the challenges that schools face. By staying visible and accessible to the education community, we strengthen our impact in classrooms and support teachers in inspiring future engineers.

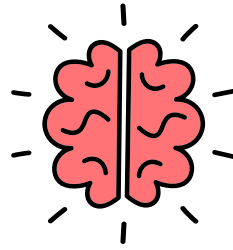


Our Impact

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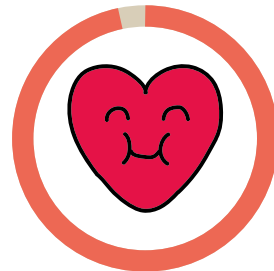
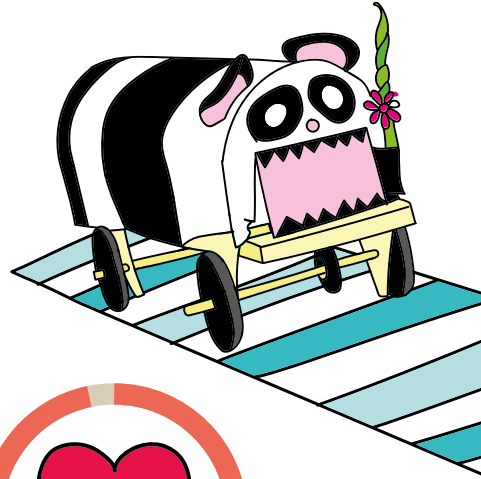
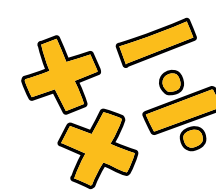
2/3rds of pupils were better behaved in class



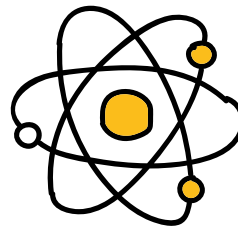
half of teachers taking part have no STEM teaching specialism



nearly three out of four teachers delivered activities to an entire class or more



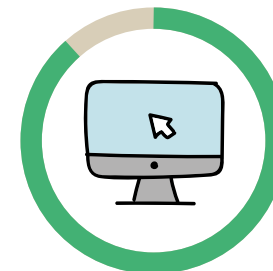
97% of teachers agree or strongly agree pupils have enjoyed taking part in the project



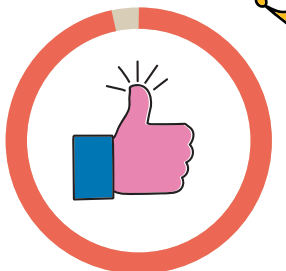
92% of teachers are more comfortable talking to pupils about Engineering Careers



81% of teachers agree or strongly agree to the value of careers-related learning in their school



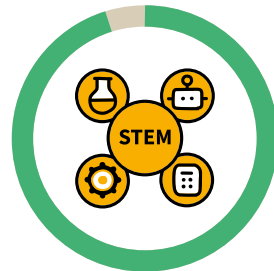
88% of teachers were more confident with the subject of design and technology in the classroom



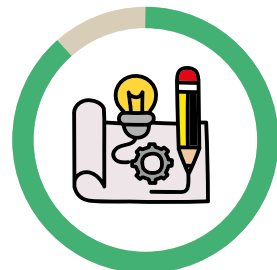
97% of teachers reported their students had enjoyed learning about engineering



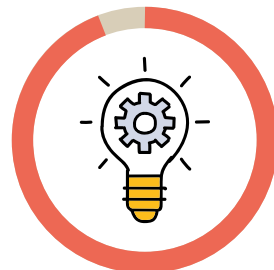
92% of teachers report an increase in their understanding of engineering following training



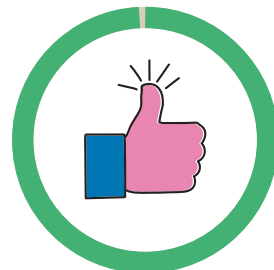
94% of teachers report that projects are of high value to teaching STEM generally



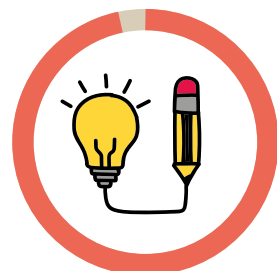
88% of teachers agree or strongly agree they are more confident with the subject of engineering in the classroom



93% of teachers observe a clear change in their pupil's perspective understanding engineering value



99% nearly every teacher, would give their enthusiastic thumbs-up to taking part



97% of teachers would deliver our activities again



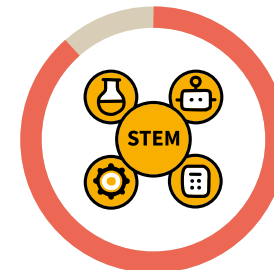
88% of teachers have a better understanding of the diversity challenges



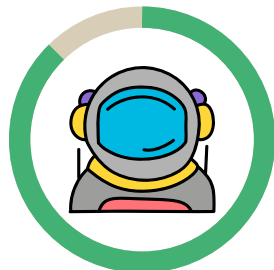
84% of teachers agree or strongly agree engineering is a career anyone can pursue



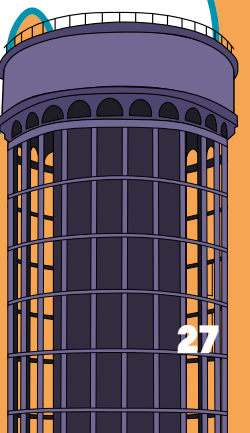
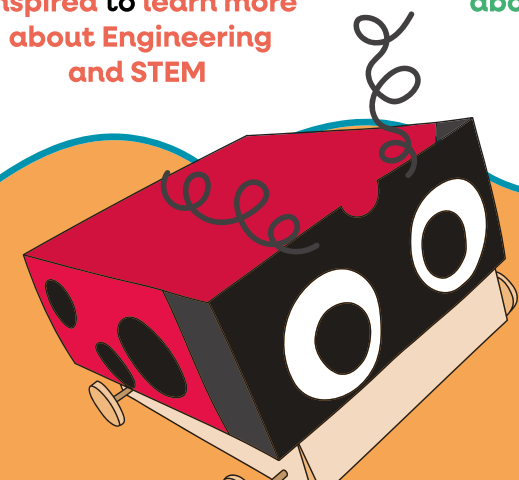
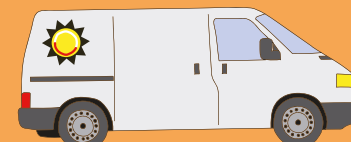
93% of teachers reported that their students were curious about engineering



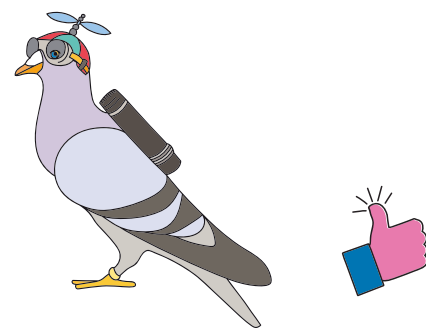
88% of teachers reported that their students were inspired to learn more about Engineering and STEM



87% of Pupils wanted to learn more about engineering



Testimonials



primaryengineer



The children have thoroughly enjoyed participating in the project and it was amazing to see their ideas coming together. The progress that they have made throughout the programme has been outstanding. They have developed a variety of their skills including problem solving, communication and practical.

- Skye, Teacher, Sutherland Primary Academy

primaryengineer



We are delighted to expand our partnership with Primary Engineer, with the support of the BDR Thermea Foundation, to include schools across both our Warwick and Preston locations. It's essential we encourage and inspire the next generation of young engineers to help us in the critical transition to clean heating and hot water – and this programme, which involves our own engineers, is a fantastic way to do just that. Research shows that STEM aspirations and perceptions are formed during the primary years, so engaging with pupils at this early stage is vital to encourage a larger and more diverse talent force. By bringing engineering to life in such a fun and informative way, we hope to show what a meaningful career opportunity this sector offers.

- Carolyn Sidebotham, Head of L&D Baxi

A dyslexic child, who often lacks confidence in her abilities, won the competition, with a fantastic dragon design, which ran straight and had a working brake. She was delighted and still wears her cap-what a confidence boost!

- Josi, Teacher, St Agnes Academy

I absolutely love working with Primary Engineer! Excited to see what the next generation of engineers come up with this year in the If you were an engineer, what would you do? Leaders Award Competition and see the brilliant cars and trains they'll build in the Rail Programme.

- Katie Grant, Widening Participation and Outreach Manager, The University of Edinburgh

primaryengineer



My daughter was lucky enough to be chosen as highly commended in the primary engineer competition last year, it has sparked a huge interest in her in engineering! She has spent the last year thinking of designs, we attended a science and engineering festival, and she proudly talks about how she is going to be an engineer when she grows up. She was even telling the heating engineer fixing our boiler yesterday she was going to be an engineer!

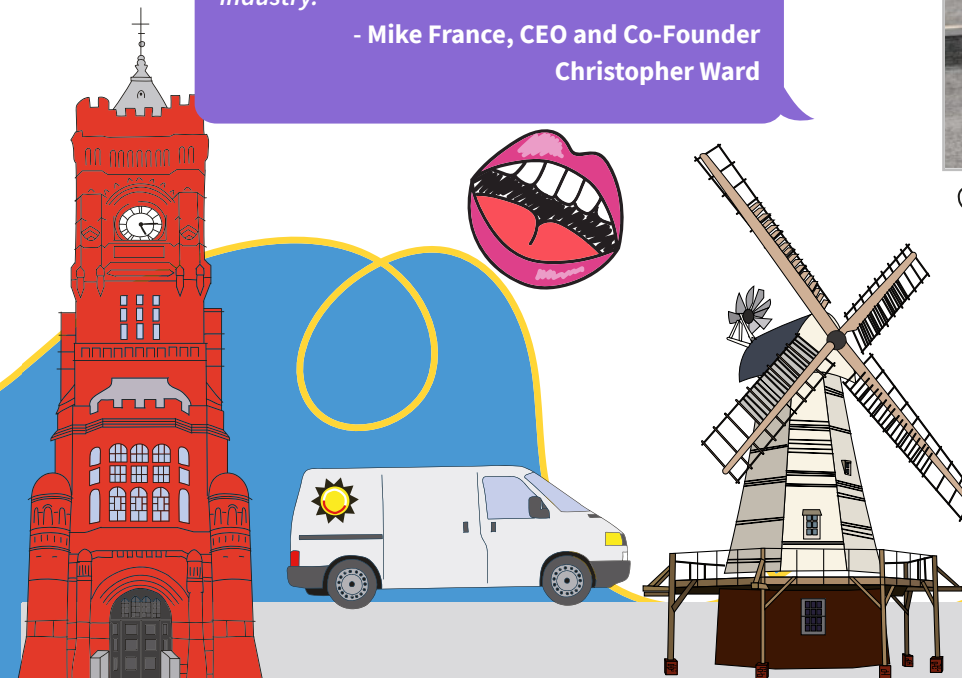
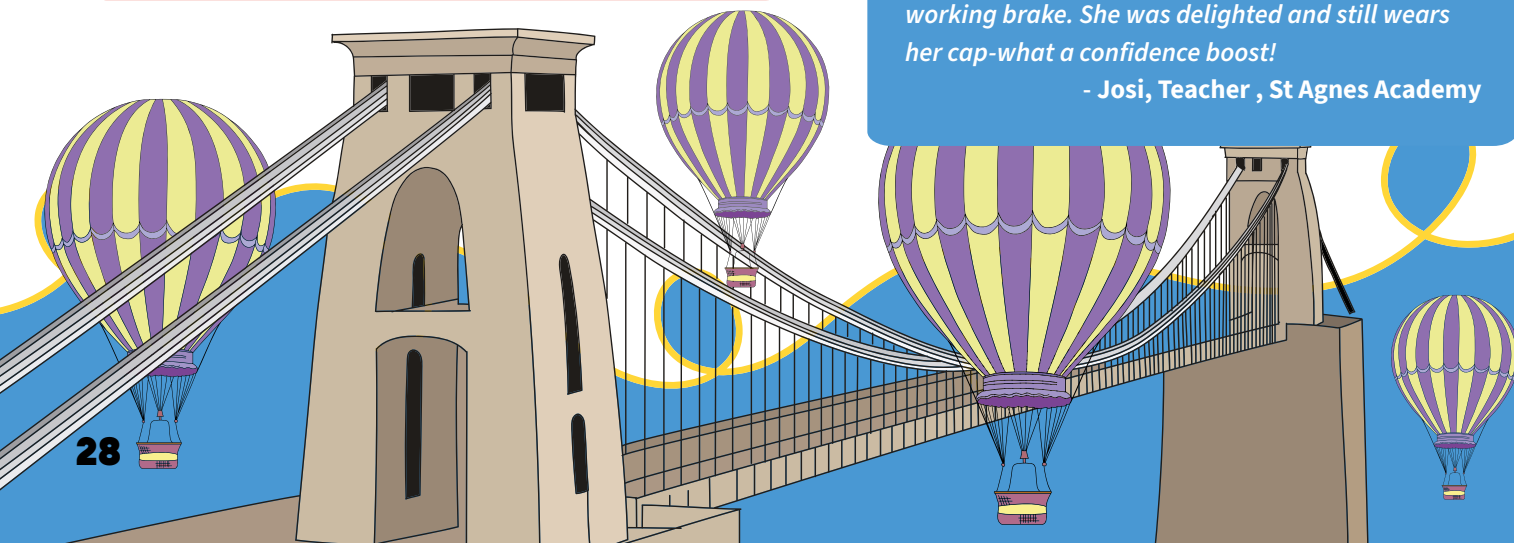
- Emily, Parent

primaryengineer



Engineering and innovation drives progress – something that is fundamental to our DNA at Christopher Ward. That's why we're delighted to be partnering with Primary Engineer to inspire young minds, spark curiosity in watchmaking, and perhaps even help shape the future of our industry.

- Mike France, CEO and Co-Founder Christopher Ward





If you're not already engaged with the fantastic activities arranged by Primary Engineer, I'd encourage you to get involved! A wonderful way to develop skills, build connections and have fun - while achieving IPD and CPD goals.

- Sandra Mulligan, Senior Membership Development Manager, IMechE

I was delighted to spend this morning at Ulster University as part of the Northern Ireland judging panel for Primary Engineer. This is one of my favourite STEM activities as I am always impressed by the ideas and solutions generated by the entrants, some as young as 3 years old. And I know it sows seeds in young minds regarding the potential of an exciting and rewarding career in Engineering.

- David Creighton, Engineering Director, Thales



We have many pupils with dyslexia who struggle to communicate ideas in writing and many who struggle to communicate by diagram. The combination of the annotated drawing with the pitch letter is perfect because it levels the playing field.

We had a whole-school focus week on Flight shortly before our STEM topic - things like Flugtag glider designs were a great warm-up. We had a visit from a Search and Rescue helicopter pilot, and because I'd done the project before, I asked him what would make his working life easier. Knowing that the windscreen wipers on a helicopter don't cope well with the curve of the windscreen was well outside any of our experience in school, but it was a great class task to try before children started their own designs. Having a couple of suggested tasks like that for children to try would be a good addition for your guidance for teachers - one of my colleagues jumped straight into children designing their first idea, which they then submitted.

- Helen, Teacher, Troon Primary



Seeing how the imagination of these kids work is so interesting and comical at times! Hopefully this project can encourage young people in to the world of engineering when it comes round to choosing a career.

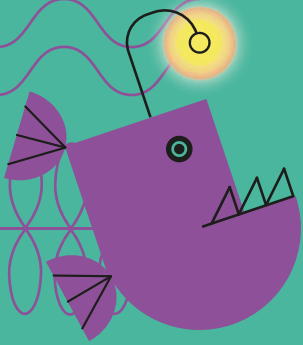
- Josh, engineering professional, Rolls Royce SMR

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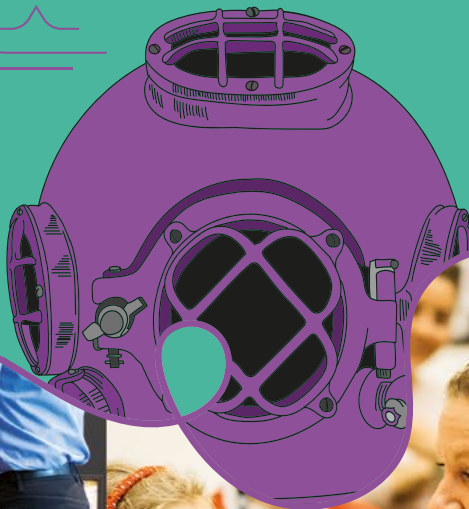


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