

The Code explores... inspiring young people



Series takeaway pack

TOMORROW'S
ENGINEERS

CODE



What is The Code explores...?

The Code explores... is a fresh approach to delivering content for the Code community. Topics are explored more deeply through a series of different events over several weeks.

Each series features:

- ✓ a blend of live and pre-recorded content
- ✓ supporting comms with event summaries and links to recordings, slides, and relevant resources... plus, a dedicated webpage to revisit content whenever you choose
- ✓ opportunities to discuss topics in the Code LinkedIn group

The Code explores... is designed to be:

- **In-depth:** each series focuses on specific topics important to the Code community
- **Flexible:** a range of content formats so you can engage in a way that suits you
- **Community driven:** giving you the chance to connect with people from across the Code community, sharing ideas and gaining new perspectives

The Code explores... inspiring young people

This series looks at how we can engage and inspire young people to explore careers in engineering and technology.

All episodes

Exploring the evidence: How young people engage with engineering and technology careers

A talk from Becca Gooch, Head of Research at EngineeringUK. She looks at the latest research on young people's interest in engineering and tech careers.

→ [See summary](#)

Engaging young people: Key messages and top tips from EngineeringUK

A webinar led by the EngineeringUK Programme Content and Careers teams. They share best practice tips and resources from EngineeringUK's programmes.

→ [See summary](#)

The Code in conversation: Inspiring insights from the community

A discussion panel with Code Signatories ENGRL, Institution of Civil Engineers, Team Repair, and ZooLab.

→ [See summary](#)

Helpful resources We've gathered all relevant resources from each episode of the series plus additional signposting.

→ [Head to this section](#)



Exploring the evidence: How young people engage with engineering and technology careers

→ [Watch the recording](#) (30 mins)

→ [See the slides](#)

Knowledge and perceptions

- **Only about a third of young people say they understand what people in engineering and technology jobs do.** Awareness is highest for science roles and lowest for technology. Girls are more likely to say they understand the role of a scientist, while boys report higher familiarity around engineers and those in tech.
- **Just under half of young people believe they could become engineers.** This declines with age, as young people are likely further on their journey towards a chosen career. Girls are significantly less likely to see engineering as suitable for them or aligned with their identity, indicating a need for early and inclusive interventions.
- **Two-thirds of young people say they receive career guidance from parents.** While parents are generally positive about STEM careers, many lack confidence in advising on them – this highlights an opportunity for outreach to upskill the wider population.

Interests within engineering and technology

- **Enjoyment of STEM subjects and the perception that STEM careers are well-paid are top motivators.** Girls are especially driven by the desire to benefit society, while boys are more influenced by pay and subject confidence.
- **Environmental sustainability topics are highly engaging for young people, especially girls.** Their interest is often shaped by local context. For example, rural students tend to be more drawn to biodiversity, while urban students are more concerned about air pollution. These themes offer powerful, place-based entry points into STEM engagement.
- **SEND students show higher interest in technology and engineering careers than their peers without SEND.**
- **Young people who are not interested in STEM careers often cite a lack of confidence in their abilities** or having other plans. This underscores the need to showcase the diverse skills required in engineering and tech, beyond just academic excellence in subjects like physics.

Exploring the evidence: How young people engage with engineering and technology careers

Knowledge and perceptions

- **43% of young people reported participating in STEM outreach activities in the past year**, with careers fairs being the most common.
- **Project-based learning, though less common, had the highest impact** on encouraging continued STEM study.
- **Hands-on, practical experiences are especially impactful** yet are declining in schools. This highlights a key area for outreach to fill the gap.
- **Successful outreach programmes are grounded in behavioural change.** EngineeringUK uses the COM-B model (Capability, Opportunity, Motivation – Behaviour) to design impactful STEM outreach that ensures young people feel skilled, informed, and inspired to pursue engineering.

Relevant resources

- [Science Education Tracker 2023](#)
- [What parents know about engineering and technology](#)
- [School report series: How teachers engage with STEM outreach](#)
- [Browse all EngineeringUK research](#)

Evidence from existing evaluations for delivering high impact activities



Create activities linked to classroom learning



Be inclusive



Use relatable role models and examples



Highlight different industries



Get engineers and technicians talking about their background and career history



Describe the skills engineers use in their work



Embed careers inspiration and information



Target your interventions



Measure impact and iterate



Engaging young people: Key messages and top tips from EngineeringUK

- [Watch the recording](#) (57 mins)
- [See the slides](#)

Careers messaging

- **Showcase diverse early-career role models** who share authentic success stories and challenges.
- **Link STEM subjects to real-world applications** and personal interests.
- **Provide clear next steps** and accurate labour market information, including salary and skills demand.

Design activities to build confidence and self-efficacy

- **Use hands-on, practical tasks** that mirror real engineering roles.
- **Frame activities with purpose:** connect skills practiced to actual careers.
- **Include reflection and feedback** moments to reinforce skills and confidence.

Meet Charlotte

What's your job?
I'm an agricultural engineer, working on farm.

I make a difference by...
I'm helping the UK reach net-zero by making farming equipment more efficient and better for the environment.

What I love about my job is...
I think the engineering behind farming is really interesting, and I also love working alongside all the animals.

Why did you want to be an engineer?
I really like making things, designing things and fixing things! Engineering lets me do that, working on tractors on the farm.

Find out more about Charlotte: <https://neonfutures.org.uk/>

Engineer your future

neon
Brilliant Inspiration

ENGINEERS ARE HELPING US
change the way we
TACKLE AIR POLLUTION

How will we make living environments safe and healthy?

Building Systems Technician

Environmental Engineer

Public Health Engineer

THE BIG BANG CHALLENGE

STUDENT GUIDE: THE ACTIVITY
Use the brief below as inspiration for your STEM project.
The design thinking process is used by people working in STEM when problem solving.
The steps below will guide you through the process.

CHALLENGE OUTLINE
GAME, SET, MATCH: TRANSFORMING SPORT WITH STEM

Use the brief below as inspiration for your project. People working in science, technology, engineering and maths (STEM) use the design thinking process when problem solving. The steps below will guide you through how to apply this to your project.

People in STEM work in many different roles. To succeed on this challenge, you will have to see STEM in new places and think outside of the box.

How can technology and engineering make positive changes in sport?

- What about making sure sport is accessible to everyone? Can engineers be designing better prosthetics?
- Can equipment be designed in a cheaper way? How do we encourage more people to have healthy lifestyles? Would an app be helpful for this?
- What about the process of needing to warm up before you exercise, is there a material that could keep muscles warmed up?

Do any of these ideas spark your imagination? Start thinking and exploring these ideas and see where they take you!

Promote enjoyment and engagement

- **Young people respond well** to activities with real-world relevance, social impact, climate solutions, and health themes.
- **Incorporate** challenges, games, and physical objects for sensory engagement.
- **Ensure inclusive delivery** with clear instructions, pace, and opportunities for all to participate.

Engaging young people: Key messages and top tips from EngineeringUK

Representation and diversity

- **Highlight a breadth of pathways** and diverse role models.
- **Use case studies and resources** to show STEM careers are accessible and relevant to different backgrounds.
- **Emphasise why diversity is needed** in solving global challenges.

Relevant resources

- [Green careers posters](#)
- [10 reasons to become an engineer poster](#)
- [What is engineering? booklet](#)
- [Engineer your future](#) – editable PowerPoint
- [Engineer your future](#) – top tips for presenters
- [STEM webinar for parents and carers](#)
- [All careers resources on EUK Education](#)
- [Meet the future you quiz](#)
- [Real jobs in STEM](#) – case studies on EUK Education

Your next steps...



The Code in conversation: Inspiring insights from the community

→ [Watch the recording](#) (53 mins)

Key takeaways

- **Engineering is everywhere:** Many young people don't realise how much engineering shapes their world. Helping them 'lift the lid' and see engineering in everything around them makes the subject feel relevant and sparks curiosity.
- **Young people are already engineers:** Young people often don't realise they already use engineering skills in everyday life. Framing engineering as problem-solving they already do helps young people see themselves in the role and builds their confidence.
- **Make it personal:** Connecting STEM to local issues and things young people care about can help them see engineering as personal to them. This sense of relevance – 'how does this affect me and my family?' – is powerful for engagement.
- **The future is in their hands:** Giving young people a sense of agency can help engineering feel exciting and meaningful. The challenges we face today (like sustainability and innovation) are not solved yet, and they could be the ones to create the solutions.



→ [Team Repair](#)

Meet the panellists!

Anaïs Engelmann

Co-founder & CPO, Team Repair

Anaïs co-founded award-winning EdTech startup, Team Repair, while studying at Imperial College London. Designed to fit into the school curriculum, Team Repair tackles two challenges – electronic waste and the lack of practical STEM engagement – by teaching repair skills in a hands-on, enjoyable way.

Anaïs' highlight: Practical tasks help young people gain valuable skills, such as using tools, and builds their confidence through trial-and-error problem solving.

The Code in conversation: Inspiring insights from the community



Elisabeth Eweka
Founder, **ENGRL – Girls in Engineering**

Elisabeth founded ENGRL to make engineering visible and relatable for girls, using Instagram and TikTok to meet young people where they are. With over 150,000 followers, her content explains engineering in simple, creative terms, and showcases diverse role models.

→ [ENGRL](#)

Elisabeth’s highlight: Frame engineering as creative problem-solving rather than focusing on individual subjects, like maths and physics, to make engineering feel accessible.



Phillip Burnett
Corporate Manager, **ZooLab**

Phil works for ZooLab to design and deliver curriculum-based workshops in schools that use live animals to engage students in science topics. He co-created ZooLab’s Biomimicry show with EngineeringUK to specifically appeal to and inspire girls.

→ [ZooLab](#)

Phil’s highlight: The workshop showcases female engineers and links animal adaptations to engineering innovations. This helps girls see how female engineers – and potentially themselves in the future – can make a positive impact in the world.



Kathryn Denham-Maccioni
Digital Engagement Manager, **Institution of Civil Engineers**

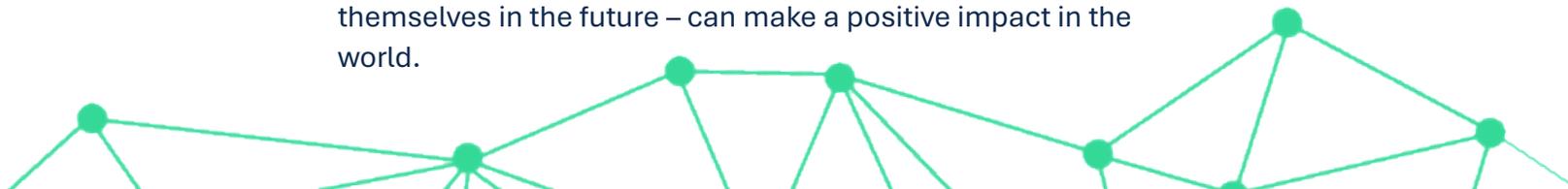
Tim Powell-Jones
Principle **Immersive Learning Designer**,
Make Real



Kathryn and Tim have worked closely to design and develop the Institution of Civil Engineers’ new digital platform, ICE Futures. It was created to inspire young people to explore civil engineering careers and follows three fictional young people through their career journeys from early choices to future achievements.

→ [ICE](#)
→ [ICE Futures](#)
→ [Make Real](#)

Kathryn and Tim’s highlights: ICE Futures’ interactive storytelling helps young people explore complete career arcs at their own pace and features diverse, relatable characters to broaden appeal. Games and challenges encourage young people to think like real engineers. Climate change themes are woven into the narrative in a solution-focused way. This helps avoid the sense of hopelessness often associated with the topic.



Helpful resources

Research

- [Science Education Tracker 2023](#)
- [What parents know about engineering and technology](#)
- [School report series: How teachers engage with STEM outreach](#)
- [Browse all EngineeringUK research](#)

Supporting the delivery of your activities

- [What is engineering? booklet](#)
- [Engineer your future](#) – editable PowerPoint
- [Engineer your future](#) – top tips for presenters
- [Meet real engineers](#) – ready-made presentation that can be used to introduce primary school pupils to engineering and technology careers
- [Talking about engineering and technology with young people](#) webinar
- [Top tips for delivering engineering activities](#)
- [Making engineering engagement content inclusive](#) webinar
- [STEM webinar for parents and carers](#)
- [Real jobs in STEM](#) – case studies on EUK Education
- [10 reasons to become an engineer poster](#)
- [100 jobs in STEM poster](#)
- [My World, My Future](#) – discover STEM inspiration outside the classroom
- [Meet the future you](#) quiz helps students understand how their skills and passions could lead to exciting future engineering and technology careers
- [Browse all careers resources on EUK Education](#)

Supporting your outreach approach

- [Understand the careers education landscape](#) with updated slides from our March 2024 webinar
- [The EngineeringUK Priority Schools Approach](#) – learn about the criteria EngineeringUK uses to target students from underrepresented groups

Green engineering and technology careers

- [How to inspire students through environmental sustainability and the technological solutions to climate change](#) webinar
- [Tackling Climate Change](#) – ready-made resource to teach students about the role of engineering and technology in tackling climate change
- [Green careers posters](#) – for primary age students
- [Green careers postcards](#) – for secondary age students

Other helpful links

- [The Code](#)
- [Tomorrow's Engineers](#) – resources to support your STEM outreach
- [EUK Education](#) – the EngineeringUK home for STEM education professionals
- [EngineeringUK main website](#)
- [The Big Bang Programme](#)

Join the conversation!

Excited to discuss ways to inspire young people with fellow Code members?

The **Code community LinkedIn group** is the perfect place to chat about **The Code explores... inspiring young people**. As a Code member, the group is open to all employees at your organisation, so why not send them the link today.

→ [Join the LinkedIn group here](#)

Invite your colleagues!

As a Code member, **The Code explores...** is open to all employees from your organisation. Do you know a colleague who'd be interested in accessing **Code explores...** content, plus updates and news of future explorations? Just send them the link to the mailing list registration form to receive our monthly newsletter and invites to our events.

→ [Join The Code mailing list](#)

The Code explores... on demand!

Find all the content from this series, plus our **engaging schools** pilot, on our dedicated hub to access whenever you choose.

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