Annual Review

2024–2025

Queen Elizabeth Prize for Engineering

More than ever, our planet and humanity faces increasingly significant and complex challenges. Engineering helps find solutions to those challenges – making the world we live in a better, more equitable, sustainable place.

Engineering has a living impact on people right around the globe; from medicines delivered to the body with precision by nano-scale devices and the world's biggest and greenest buildings, to sustainable energy sources and global communications powered by the world wide web.

The Queen Elizabeth Prize for Engineering champions bold, ground breaking innovation in engineering, that helps humanity survive and thrive. The Prize salutes engineering's visionaries – individuals and teams – with the added purpose of inspiring and exciting young creative minds to help solve the challenges of the future. It also encourages existing practitioners to help push the boundaries of engineering across all of its disciplines and applications.

Queen Elizabeth Prize for Engineering

Introduction

The Queen Elizabeth Prize for Engineering (QEPrize) celebrates the power of engineering to change the world. It shines a spotlight on pioneering engineers whose innovations tackle global challenges and improve lives, while also inspiring the next generation to see engineering as a dynamic and rewarding career.

This year marks my first as Chair of the Queen Elizabeth Prize for Engineering Foundation, and it was a great privilege to announce our latest QEPrize Laureates. Their groundbreaking work in modern machine learning is already reshaping industries, and redefining how we live and work. It's an exciting time, as we stand on the edge of even greater possibilities driven by this transformative technology.

Our commitment to public engagement continues to grow. The Engineers gallery, housed in London's iconic Science Museum, is approaching a major milestone: its one millionth visitor. Through this, and through initiatives like the QEPrize Ambassador Network and the global Create the Trophy competition, we are reaching new audiences and showing young people around the world the incredible impact of engineering.

The QEPrize not only honours remarkable engineering achievements but also fuels the ideas and innovations of tomorrow. The work of our Laureates serves as a powerful reminder of engineering's global influence and its vital role in building a better future for all.

Lord Vallance of Balham
Chair, Queen Elizabeth Prize for Engineering Foundation

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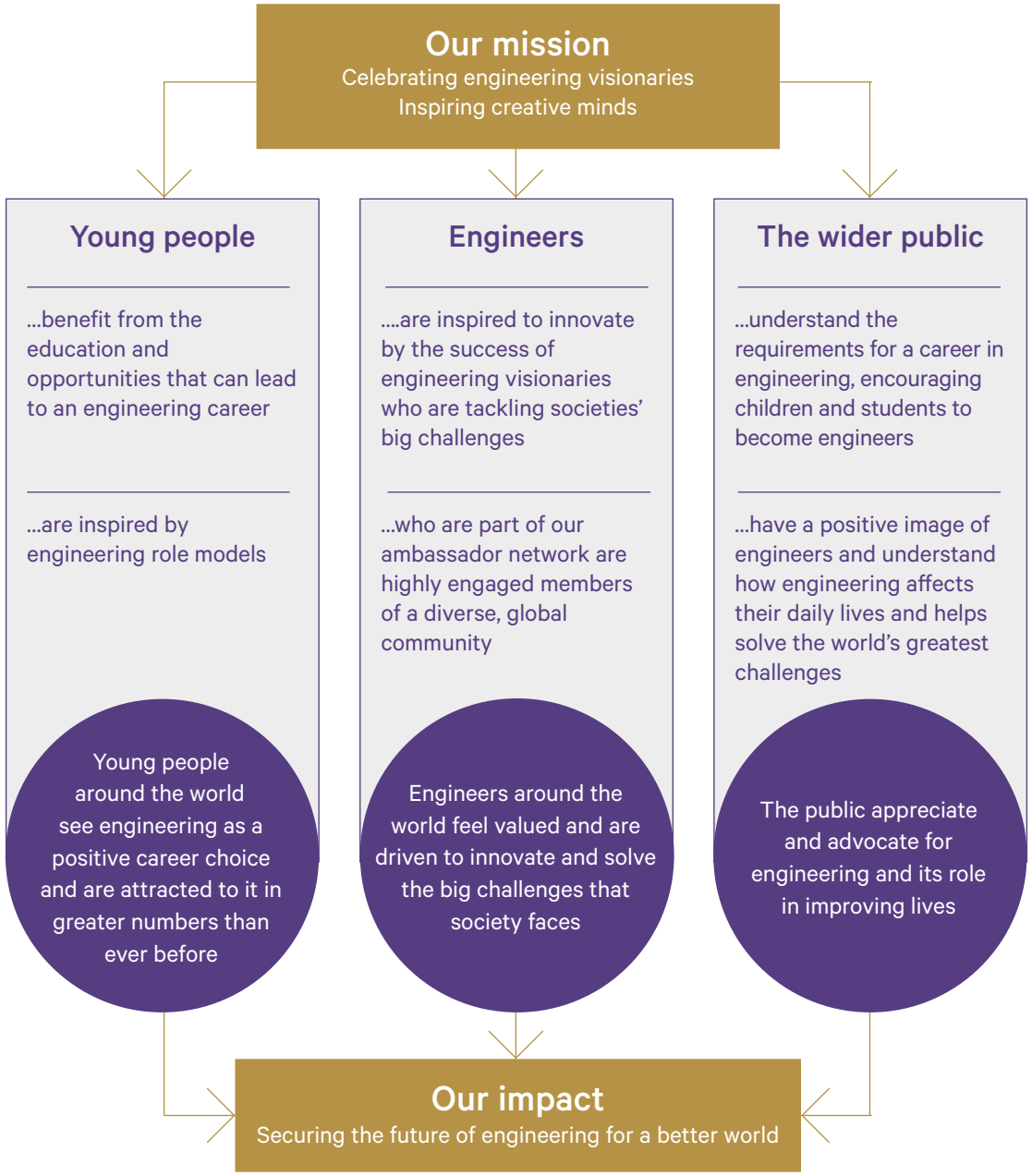
From mission to impact: our theory of change

The Queen Elizabeth Prize for Engineering Foundation's Theory of Change illustrates how we create lasting impact through strategic action and measurable outcomes. It communicates our systematic approach both to recognising engineering excellence and inspiring future generations, creating ripple effects that extend far beyond individual recognition to encourage and celebrate the engineering innovations that address humanity's greatest challenges.



The 2025 Queen Elizabeth Prize for Engineering Laureates

In an event held at the Science Museum, in the presence of Her Royal Highness The Princess Royal and over 250 invited guests, Lord Vallance announced that the 2025 Queen Elizabeth Prize for Engineering would be awarded to seven engineers responsible for seminal contributions to the advancement of Modern Machine Learning, a foundational component driving progress in artificial intelligence (AI).

Together, the work of Dr Bill Dally, Dr Fei-Fei Li, Professor Geoffrey Hinton, Jensen Huang, Professor John Hopfield, Dr Yann LeCun, and Professor Yoshua Bengio has been pivotal in advancing the three core pillars of Modern Machine Learning: advanced algorithms, high-performance hardware, and high-quality datasets. It is the combination of these interrelated breakthroughs that underpins the widespread adoption and application of AI systems.

From revolutionising healthcare diagnostics to enabling self-driving cars, their work highlights the transformative potential of AI in shaping a better future. The 2025 QEPrize honours their ingenuity and vision, recognising their profound impact on engineering and society as a whole.

"Engineers are builders of the future. And engineering is the art and science of turning imagination into reality, solving challenges once thought impossible, and uplifting the human condition. I am deeply honoured to receive the Queen Elizabeth Prize for Engineering and to be recognised among the pioneers whose work has shaped the world we live in today."

Jensen Huang, 2025 QEPrize Laureate

Above [Left to right] Dr Yann LeCun, Dr Bill Dally and Professor Yoshua Bengio. *QEPrize/ Jason Alden*

Next page [Left to right] Lord Vallance of Balham, Dr Yann LeCun, HRH The Princess Royal, Professor Yoshua Bengio, Dr Bill Dally and Dr Hayaatun Sillem. *QEPrize/ Jason Alden*

7

Engineers responsible for seminal contributions to the advancement of Modern Machine Learning won the Prize for 2025:

- **Bill Dally**
- **Fei-Fei Li**
- **Geoffrey Hinton**
- **Jensen Huang**
- **John Hopfield**
- **Yann LeCun**
- **Yoshua Bengio**

3

Core pillars of Modern Machine Learning:

- **Advanced algorithms**
- **High-performance hardware**
- **High-quality datasets**

"I am deeply honoured to receive the Queen Elizabeth Prize for Engineering, especially in such esteemed company alongside my fellow honourees. My life's work has been dedicated to the imperative of ensuring the development of the most impactful technology of our generation benefits humanity, and my hope is that this recognition will drive further awareness of the need continue to keep human values at the centre of AI's development."

Fei-Fei Li, 2025 QEPrize Laureate

Media Coverage

The 2025 QEPrize announcement garnered significant media coverage across the UK and further afield. Broadcast highlights included a full feature package for Sky News, while Lord Vallance and Laureates were interviewed by The Times and The Guardian *(below)*. News of the Laureates' success returned over 200 pieces of organic coverage, in over 20 international markets spanning four continents.

200+

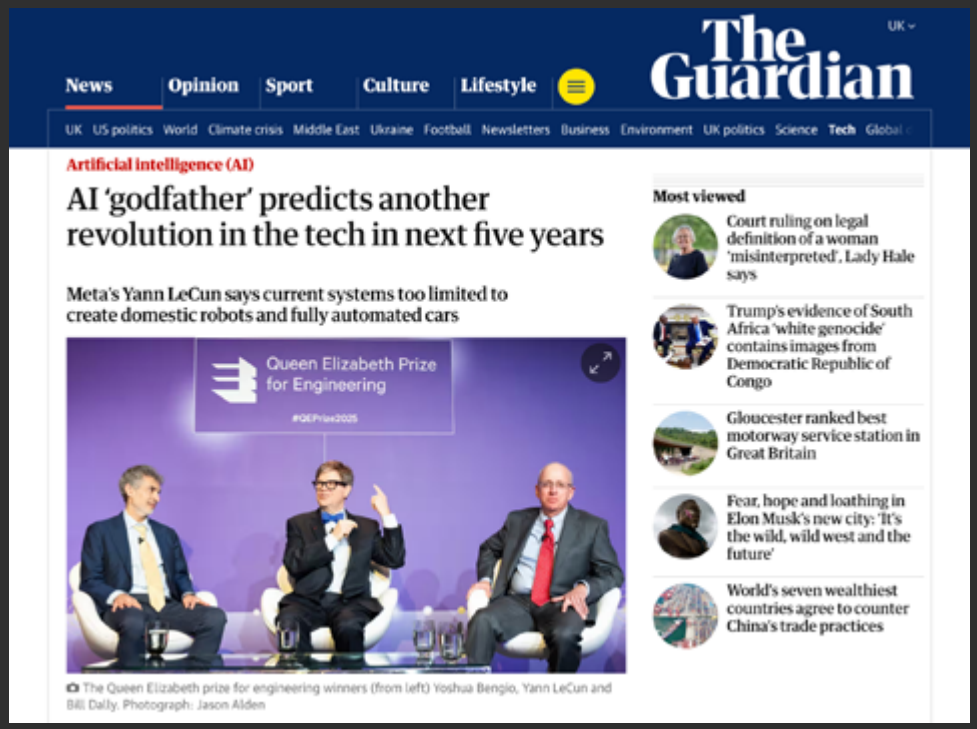
pieces of organic coverage

168k+

uses of the #QEPrize2025 hashtag

20

Different markets reached through the international coverage



The Guardian

News | Opinion | Sport | Culture | Lifestyle

UK US politics World Climate crisis Middle East Ukraine Football Newsletters Business Environment UK politics Science Tech

Artificial intelligence (AI)

AI 'godfather' predicts another revolution in the tech in next five years

Meta's Yann LeCun says current systems too limited to create domestic robots and fully automated cars

Queen Elizabeth Prize for Engineering

#QEPrize2025

The Queen Elizabeth prize for engineering winners (from left) Yoshua Bengio, Yann LeCun and Bill Dally. Photograph: Jason Alden

Most viewed

Court ruling on legal definition of a woman 'misinterpreted', Lady Hale says

Trump's evidence of South Africa 'white genocide' contains images from Democratic Republic of Congo

Gloucester ranked best motorway service station in Great Britain

Fear, hope and loathing in Elon Musk's new city: 'It's the wild, wild west and the future'

World's seven wealthiest countries agree to counter China's trade practices

Judges

Each year, the QEPrize opens for submissions from around the world, seeking nominations of up to ten engineers who have been responsible for an innovation which has been of global benefit to humanity. Each nomination is considered by our international panel of judges, each one a respected expert in their field of engineering. The innovations we see represented make up the very best of engineering, developments that are transforming lives, industries, and the world around us on a daily basis.

"I am honoured to Chair the QEPrize judging panel, comprised of internationally distinguished engineers. It is tremendously stimulating to work with some of the leading engineers of our generation to select winning innovations from among so many excellent nominations. The QEPrize is the world's highest accolade for engineers, recognising the profound effect the profession has across the globe and serving to inspire a new generation of engineers."

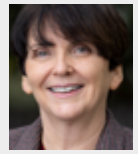
Professor Dame Lynn Gladden, Chair, Queen Elizabeth Prize for Engineering Judging Panel

Dr John L Anderson, President, National Academy of Engineering, USA

Dr Sangeeta Bhatia, Professor of Engineering, Massachusetts Institute of Technology, USA

Professor Brito Cruz, Senior Vice President, Research Networks, Elsevier, UK

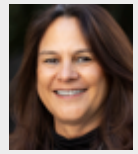
Dr Abdigani Diriye, Co-Founder & CPO, Bloom Technologies, Somalia



Professor Orla Feely, President, University College Dublin, Ireland

Professor Nick Jennings, Vice Chancellor & President, Loughborough University, UK

Professor Teck Seng, Low Former CEO, National Research Foundation, Singapore



Ilya Marotta, Deputy Administrator, Panama Canal Authority, Panama

Dr Raghunath Mashelkar, President, Global Research Alliance, India

Professor Tatsuya Okubo, Executive Vice President, University of Tokyo, Japan

Professor Tuula Teeri, President, Royal Swedish Academy of Engineering Sciences, Sweden

Professor Dr Dr hc Viola Vogel, Head of Laboratory of Applied Mechanobiology, ETH Zurich, Switzerland

2025 Create the Trophy Competition

The 2025 Create the Trophy Competition received entries from 24 countries around the world. The winning design submitted by Prerak Bothra was chosen by the judges for its considered structure, which they felt really embodied the essence of engineering.

Prerak is a 24-year-old design student from India. His design was inspired by the values of the QEPrize: innovation, global impact and excellence. The central core symbolises balance, stability and unity, while also echoing the QEPrize logo of three horizontal lines. Prerak hoped to capture the prestige, innovation and the transformative power of engineering with his trophy design. As someone deeply curious about how design and engineering can shape the world, he believes the Create the Trophy Competition "offers an incredible opportunity to showcase my skills and ideas on a global stage".

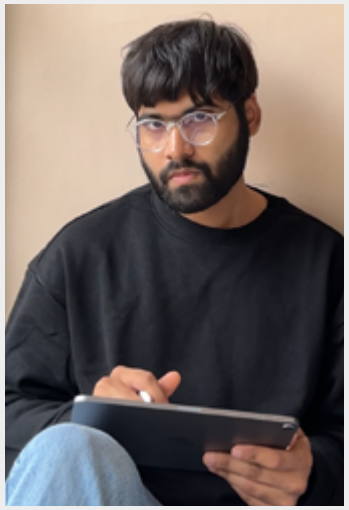
The judges also presented the Highly Commended award to Ramya Krishnamoorthy for her design, recognising its innovative use of form and geometry. Ramya, 14 from the UK, wanted her design to evoke the image of growing plants, representing the continuous learning and growth mindset essential for engineers to become outstanding innovators. She entered the competition because she viewed it as "a fantastic opportunity to further explore the world of design and engineering."

10k

More than 10,000 entries received from young people around the world.

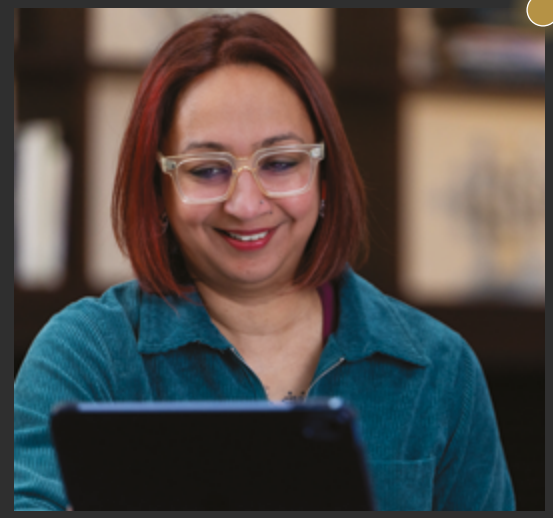
24

Countries represented in the competition submissions.



"This competition is an opportunity for young people to get a taster or a feeler of what engineering really is about because they have a client, they've got a brief that they need to respond to and then they have the opportunity to design something in a really thoughtful way and maybe even get it produced at the end."

Roma Agrawal MBE, Create the Trophy Competition Judge



Above: Create the Trophy Competition judge Roma Agrawal. *QEPrize/Jason Alden*

Previous page: Create the Trophy Competition finalist, and recipient of the Highly Commended award, Ramya Krishnamoorthy with competition judge Dr Zoe Laughlin. *QEPrize/Jason Alden*

Create the Trophy Competition 2025 winner Prerak Bothra. *Photo courtesy of Prerak Bothra*

Left: Prerak's winning design. *QEPrize/ Jason Alden*

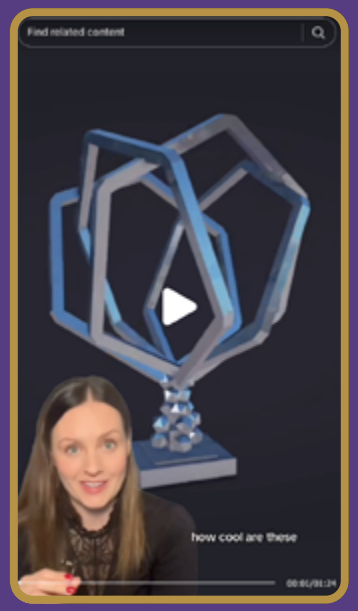
Public Engagement Campaigns

We're proud that our annual Create the Trophy Competition draws entries from young people aged 14 to 24 around the world, and we're always working to expand our reach even further. Our goal is to inspire more young people to find out about what careers in engineering can offer, and we make a conscious effort to connect with them on platforms that truly engage.

Recognising the growing influence of TikTok among our target audience, we decided to create content specifically for this platform as part of our outreach strategy. Traditional channels like LinkedIn are less likely to capture the attention of younger audiences, so in August, we launched a TikTok campaign to raise global awareness of the Create the Trophy Competition.

To help us connect more authentically with our audience, we partnered with Ruth Amos, inventor, author and content creator. Ruth's insight and presence helped us reach a wider audience and bring a fresh, relatable energy to our messaging.

This bold step into a new platform gave us valuable insight into what truly resonates with our audience, and the campaign delivered the results we were aiming for. TikTok will remain a key part of our mission to inspire the next generation of engineers.



24k+

views of our TikToks in this campaign

Engineers Gallery at the Science Museum

Our Engineers gallery, delivered in partnership with the Science Museum, continues to go from strength to strength.

Since opening in June 2023 the gallery, which celebrates the engineering community and showcases a wide variety of key innovations through the global lens of the Queen Elizabeth Prize for Engineering, has welcomed over one million visitors.

Research shows young people's knowledge of engineering is low, and what they do know is often influenced by stereotypes and misinformation (Educational Pathways into Engineering, Engineering UK 2020). By connecting audiences with people just like themselves who have created and pursued innovation, this new gallery provides a much-needed entry to a subject many feel disconnected from, and opens people's eyes to the possibilities it affords.

Engineers continues to be the most popular gallery at the Science Museum with our key target audience – KS3 and KS4 students.

Over the coming years Engineers will play a key role in delivering the Foundation's objective to inspire the next generation.

68

engineers featured in the gallery, telling diverse and inspiring personal stories.

1M

Over one million visitors welcomed by the gallery since its opening.

Below: Visitors in the Engineers gallery at the Science Museum. *QEPrize/Jason Alden*

QEPrize in Copenhagen

The QEPrize began 2025 with an event in Copenhagen celebrating the work of the 2024 Laureates, Henrik Stiesdal and Andrew Garrad.

Organised in conjunction with the Danish Academy of Technical Sciences, the event focussed on exploring the role to be played by wind energy in helping both the UK and Denmark meet Net Zero targets. Over 100 delegates heard keynote addresses from both Laureates, as well as two panel discussions examining some the technical and commercial challenges facing the industry.

Lord Vallance was joined by Denmark's Climate Minister, Lars Aagaard, and they welcomed delegates, including the UK Ambassador to Denmark, Joëlle Jenny, to the event.

100

Over 100 delegates heard keynote addresses from 2024 Laureates:

- **Henrik Stiesdal**
- **Andrew Garrad**

Right: [Left to right] Andrew Garrad, Marie Brøns and Professor Susan Gourvenec during a panel discussion. *Tom Jersø*

The QEPrize Ambassador Network

The QEPrize Ambassador Network unites early-career engineers from diverse fields worldwide, aiming to inspire the next generation to pursue engineering careers. QEPrize Ambassadors can be found in more than 20 countries, working in almost 100 companies and academic institutions and engaged in a wide variety of engineering disciplines.

The network empowers young engineers by developing transferable skills, offering opportunities to learn from industry leaders, and providing a platform for international collaboration. Through dynamic events, including practical projects, volunteering initiatives, and workshops, the network showcases the best of engineering, excites the public about the profession, and inspires younger generations to tackle future challenges.

QEPrize Ambassadors stats:

20

Countries

100

Organisations

Above: QEPrize Ambassadors with students during the Engineers Speed Mentoring for Girls event at the Science Museum. *QEPrize/Rob Lacey*

Engineers Speed Mentoring for Girls, International Women in Engineering Day

This event saw twelve of our brilliant women QEPrize Ambassadors share personal stories, career insights, and practical engineering advice, with two groups of Year 8 (aged 12 and 13) students. The girls, from two schools in London, left energised, informed, and more excited than ever about where engineering could take them.

Held in the inspiring Engineers gallery, the speed mentoring was timed to coincide with International Women in Engineering Day (INWED24) and promoted on QEPrize social media channels to raise the profile of both INWED and the QEPrize.

The event provided a unique opportunity for the girls to meet women engineers, ask them questions about what an engineer actually does and quiz them about their pathways to engineering. Alongside this, the girls also had the opportunity to develop interpersonal skills such as confidence, communication and networking. QEPrize Ambassadors followed up with visits to the schools to speak about engineering as a career to the whole Year 8 cohorts (approximately 200 per school) on International Women in Engineering Day.

"Events like this are so important in combatting stereotypes and giving opportunities to people who may have never met an engineer to find out about what engineering is. It's a huge step to helping young people make informed decisions when choosing their career"

Philippa Jefferis, BAM – QEPrize Ambassador

"The most interesting thing I learnt about women engineers today was the fact that there were so many different types of engineering and also the fact that they've done so many incredible things that I'd never heard about before."

Year 8 student

Left: QEPrize Ambassador, Sajni Halai with students during the Engineers Speed Mentoring for Girls event at the Science Museum. *QEPrize/Rob Lacey*

Taking Engineering to Schools

Throughout the year, the QEPrize continued to build meaningful connections with schools, using the expertise and experiences of our Ambassadors to engage and inspire young people – particularly girls – towards careers in engineering. These efforts are part of our wider mission to showcase the diversity and real-world impact of engineering to the next generation.

At Cranbrook School in Kent, which is committed to encouraging its brightest girls to consider STEM careers, QEPrize Ambassador Dr Mahmoud Wagih delivered a virtual session to Year 7 students (aged 11–12). Demonstrating how electronics can "see" and "charge" using electromagnetic waves, he introduced students to everyday applications of wireless technologies. The session sparked enthusiastic curiosity, with students asking questions about safety, current uses, and the future potential of remote energy transfer.

Mahmoud reflected on the experience as both engaging and thought-provoking, highlighting how these opportunities allow engineers to distil complex concepts into accessible and inspiring messages for younger audiences.

Similarly, our partnership with Lammas School in east London offered another platform to connect with young minds. Following the 2024 Speed Mentoring event, where students first met QEPrize Ambassador Gunay Shamilova, Gunay was invited to speak at a Year 8 assembly.

Drawing from her own journey, she shared how she became a corrosion engineer, her academic path, and the responsibilities of her current role. Her talk offered students a glimpse into a specialised and often overlooked field, broadening their understanding of the many directions an engineering career can take. Gunay also spoke about the value of these outreach experiences in sharpening her communication skills and in gaining insight into the interests of young learners, key considerations for future engagement.

Together, these case studies highlight the power of real-life stories and relatable role models in motivating young people to explore engineering. They also reflect the core aims of the QEPrize Ambassador programme: to inspire, educate, and empower the engineers of tomorrow.

Below: QEPrize Ambassador Gunay Shamilova with Lammas School students. *QEPrize*

Power Up Book Launch

In line with our mission to highlight engineering's role in solving global challenges, the QEPrize proudly hosted the launch of *Power Up: An Engineer's Adventures into Sustainable Energy* by QEPrize Ambassador and chemical engineer Yasmin Ali. The event celebrated Yasmin's work and her exploration of how engineering can drive sustainable change.

Yasmin's role as a QEPrize Ambassador exemplifies the broader impact of our outreach initiatives – supporting diverse voices, elevating public engagement with engineering, and inspiring current and future engineers to contribute to solutions that will shape a better tomorrow.

Below: QEPrize Ambassador, Yasmin Ali at the launch of her book "Power Up: An Engineer's Adventures into Sustainable Energy". *Photo courtesy of Yasmin Ali*

"This reminds me why I do what I do – I get to talk about the joy of engineering and the difference I can make in the energy sector, the energy transition, and to the climate crisis. It can be easy to forget this bigger picture when I am stuck in the day-to-day. In addition, when I was younger and trying to choose a career, I didn't know much about engineering. I want to do my best to change that for others, especially girls, by engaging with them and showing them how incredible and varied life in engineering can be..."

Yasmin Ali, RWE – QEPrize Ambassador

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Queen Elizabeth Prize
for Engineering

Celebrating engineering visionaries, inspiring creative minds

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