



# WELCOME

On behalf of HRUC (Harrow, Richmond and Uxbridge Colleges) and our partner, the Massachusetts Institute of Technology Industrial Liaison Programme (MIT ILP), I warmly welcome you to our inaugural National Innovation Challenge Awards.

Together, we launched this groundbreaking competition to invite students from Secondary Schools, FE Colleges, Sixth Forms, and Institutes of Technology across the UK to share visionary ideas that could positively and sustainably impact our planet.

The idea for these awards was borne out of a shared belief that young people are not just the leaders of tomorrow, but powerful innovators today. We were inspired by the creativity we saw in classrooms, workshops, and labs - ideas with real potential to drive meaningful change, if only given the platform to shine. At HRUC we recognised the importance of opening up this opportunity to students across the education sector and across the UK.

We've been thrilled by the enthusiastic response and the outstanding quality of entries, showcasing the creativity and talent of students nationwide - from Fife to Exeter, Birmingham to Hull. I am especially proud of the diverse range of students who took part. Many, I hope, will continue using innovation as a tool for personal growth and positive change, proving that talent knows no boundaries.

I would also like to extend our heartfelt thanks to our brilliant judges, whose expertise, time, and dedication have been vital to the success of this competition. Their thoughtful evaluation and commitment to nurturing young talent have helped shine a spotlight on the best and brightest ideas.

Tonight, we celebrate the very best. I sincerely thank all entrants for their hard work and creativity. For a lucky few, this journey continues with a life-changing visit to MIT - an experience we hope will inspire even more students to rise to next year's challenge and help shape a better world.

**KEITH SMITH**  
CEO, HRUC





# ABOUT HRUC



Following a merger in 2023, HRUC (Harrow, Richmond and Uxbridge Colleges) has rapidly evolved into a thriving educational hub with three colleges and a strong apprenticeship provision.

The diverse and aspiring college group now serves nearly 15,000 learners across west and south London, offering a range of courses, including A-Levels vocational programmes, T-Levels, and apprenticeships.

The College group also proudly supports over 850 learners with special educational needs and/or disabilities (SEND), providing tailored programmes and internships to help them thrive.

HRUC is the lead partner in the West London Institute of Technology, offering higher education courses at HNC Level 4 and HND Level 5 in STEM subjects.

West London IoT provides students with higher technical skills that are demanded by employers. It provides employers with access to students that are trained in the future skills needed to succeed in an ever-changing business environment.



**HRUC**  
HARROW, RICHMOND & UXBRIDGE COLLEGES

"THIS  
NATIONWIDE  
COMPETITION  
CELEBRATES  
THE CREATIVITY,  
PASSION & POTENTIAL  
OF YOUNG INNOVATORS  
FROM EVERY  
CORNER OF  
THE UK."

---



# MEET OUR PARTNERS





## MASSACHUSETTS INSTITUTE OF TECHNOLOGY INDUSTRIAL LIAISON PROGRAMME (MITILP)

Harrow, Richmond and Uxbridge Colleges (HRUC) has joined the prestigious Industrial Liaison Program (ILP) at the Massachusetts Institute of Technology (MIT).

MIT is a profoundly global university, acting as a magnet for talent from around the world. Founded to accelerate the USA's industrial revolution, MIT graduates have since invented fundamental technologies, launched new industries, and created millions of jobs. Through teaching, research, and innovation, MIT's exceptional community pursues its mission of service to the world.

The partnership between MIT ILP and HRUC (which includes its West London Institute of Technology), provides a range of important benefits including access to MIT's world-leading researchers.

**STEVE WHITTAKER,**  
Program Director  
for the MIT ILP





'We are proud to engage with HRUC on this pioneering national competition. We look forward to reflecting on the latest research and providing a platform for young minds to propose and refine ideas that will leave a legacy for future generations. We are excited about the innovative entries from across the UK and look forward to welcoming the winners to the USA.'

**SHAPING  
TOMORROW**

## A LIFE-CHANGING OPPORTUNITY

The winner(s) and one member of staff from the winning school or college will visit the MIT in Boston\*. They will experience the real-world technological impact on Climate & Sustainability and:

-  Access cutting-edge facilities and researchers to further develop their technical and personal skills.
-  Review their idea with industry experts at themed events and campus conferences.
-  Have the opportunity to visit Boston's historic sites, world class museums and diverse communities.
-  The prize includes the associated transport, accommodation, meals, refreshments and insurance costs for the visit in the USA.



## SUSTAINABILITY



Sustainability has never been as important to the future of our planet as it is today.

The National Innovation Challenge aims to develop innovative solutions to champion sustainability and promote Environmental, Social and Governance (ESG).

Entrants were encouraged to showcase their vision and propose solutions for industry challenges.

This could be achieved through creating entirely new concepts or enhancing an existing process.

Students could develop a local solution with the opportunity to improve on a national or global scale.



# MEET THE JUDGES





## KONNIE HUQ

British television & radio presenter,  
screenwriter & children's author

---

Konnie Huq is one of Britain's most  
engaging and respected presenters.

She was BBC Blue Peter's longest-serving  
female presenter from 1997-2008. During  
her time on Blue Peter, Konnie presented  
a number of science-filled segments,  
from technology and climate change,  
to economics. Konnie has consistently  
inspired the younger generation in  
STEM activities.

Konnie kick-started our National Innovation  
Competition at our launch last year.



Konnie Huq photographed by Ray Burmiston/ Radio Times



## RICHARD PENNYCOOK CBE

Department for Education

---

Richard Pennycook was the former interim  
Chair of Skills England. He stepped down as  
Chief Executive Officer (CEO) of the Co-op  
in 2017 to pursue a portfolio career.

He has over 30 years' experience in retail,  
starting with the management buyout of  
Allders in the late 1980s. Over the years,  
he has been involved in the growth of  
J D Wetherspoon and the turnarounds of  
Laura Ashley, Welcome Break, Bulmers  
and Morrisons.

He is currently chairperson of On the Beach  
plc, Two Sisters Food Group and Wolf and  
Badger Ltd.



## KAMRAN LATEEF

Amazon Web Services

---

Kamran serves as Cluster Operations Leader at Amazon Web Services, overseeing the company's data centre operations in the UK. Kamran has worked in the technology sector for over 17 years, with experience leading global teams across data centre engineering, IT operations, infrastructure delivery, cloud operations and software development.

Kamran has a particular interest in promoting skills development and STEM education to improve accessibility of under-represented groups into the data centre and technology sectors.

## STEVE WHITTAKER

Massachusetts Institute of Technology

---

Steve Whittaker is Program Director in MIT's Industrial Liaison Program and focuses on building sustainable relationships between MIT researchers and global industry. He has a background in computer science and AI, coupled with interests in emerging technologies and their impact on individuals, organisations, and society.

Before joining MIT, Steve spent almost 40 years in the telecommunications industry with a focus on R&D and strategy. Steve was responsible for BT's partnerships with US research universities and business schools - including their long-standing relationship with MIT with over ten years as a Visiting Scientist at the MIT Media Lab.



"PROVIDING  
A PLATFORM  
FOR YOUNG MINDS  
TO PROPOSE AND  
REFINE IDEAS  
THAT WILL LEAVE  
A LEGACY  
FOR FUTURE  
GENERATIONS."

---

STEVE WHITTAKER  
Program Director, MIT



## JASON KNIGHT

Heathrow

---

With over a decade of experience in aviation, including senior roles across commercial, HR, and operations, Jason has led multiple transformational programmes at Heathrow, the world's 4th busiest airport.

Prior to this, Jason spent 11 years in retail as a General Manager for some of the UK's most renowned brands, before leading Europe's busiest shopping centre, Westfield Stratford City.

Across these industries, a culture of sustainable impact through innovation remains deeply rooted and has shaped Jason's leadership outlook.



## ANDREW GOMARSALL MBE

Executive Director at n2s

---

Andrew Gomarsall MBE is a former Rugby World Cup winner, Executive Director at n2s, founding partner of Bioscope Technologies and is a visionary leader in driving the circular economy within the technology sector.

Andrew is at the forefront of promoting sustainable alternatives such as urban mining and advanced recycling technologies.

He is committed to fostering a transparent and ethical approach that not only protects ecosystems and local communities but also safeguards the reputation of businesses by reducing legal and reputational risks.



## ESZTER GULACSY

Mott MacDonald

---

Eszter is a Technical Director for Sustainability and ESG, based in Cambridge in Mott MacDonald's Advisory Unit. She serves as discipline lead for sustainability, providing technical leadership, supporting projects with specialist advice and setting technical standards. She is also a project director, offering consultancy services to clients globally including the private sector, governmental bodies and other buildings and infrastructure clients.

Originally a chemistry graduate, she is passionate about science education and has been serving as volunteer alumna admissions interviewer for her alma mater for over twenty years.



## GEORGE DAVIES

AtkinsRéalis

---

George has enjoyed a career spanning over 20 years as regulator, client leader and most recently, as Director for Sustainable Aviation at AtkinsRéalis.

George's extensive experience includes the Great British Rail sector, where he led the implementation of the industry's first coherent and comprehensive sustainability strategy on behalf of the UK government.

Prior to rail, George spent 11 years in the aviation sector with Heathrow Airport, where he held several senior positions in technical assurance, capital programme planning, sustainability strategy and leading the expansion sustainability team.










# THE COMPETITION SHORTLIST






## Secondary Schools

 Finalists

- St Bede's High School | Home-e-Statix 
- Torquay Academy | Robotic Algae Vacuum 
- The Waid Academy | Brickteria 
- The Waid Academy | Synthetic Tree
- The Waid Academy | Recomposer
- Torquay Academy | Saving the Planet, One Step at a Time (App)
- Torquay Academy | Edible, Ethical Food Packaging
- The Richmond upon Thames School | Lamppost Mounted Air Purifiers
- Plantsbrook School | SmartEco: AI-Driven Waste-to-Energy System
- Tomlinscote School | Pollution-Reduction AI (PRAI)




## Colleges and Sixth Forms

 Finalists

- Eton College | Plecobot 
- Exeter College | Reused Grey Water 
- The King John School - Sixth Form | Tidetidy: Keeping the Coast Clean 
- Bilborough Sixth Form College | Aquasun
- Bilborough Sixth Form College | The CO2 Filter
- NPTC Group of Colleges | Dead Denim
- East Riding College | Myco-Mining
- Plantsbrook School Sixth Form | Sustainable Packaging
- The National Mathematics and Science College | A Green Future for Maritime Shipping
- The National Mathematics and Science College | Bacterial Cellulose
- Hull College | A Design Prototype: The Tactical Box

## HRUC

 Finalists

- Uxbridge College | Cranial Cooler 
- Uxbridge College | Recycled Filament Extruder (RFE) 
- Uxbridge College | Stepping Energy Model 
- Uxbridge College | JetBridge+
- Uxbridge College | Worm Gut Bacteria
- Uxbridge College | Storm Drain Energy
- Uxbridge College | Requiem - Upcycling Products (App)
- Richmond upon Thames College | BioPlastic Blood Bags
- Richmond upon Thames College | GreenScan (App)
- Richmond upon Thames College | Harnessing Wave Energy for a Greener Maritime Industry

# NATIONWIDE COMPETITION

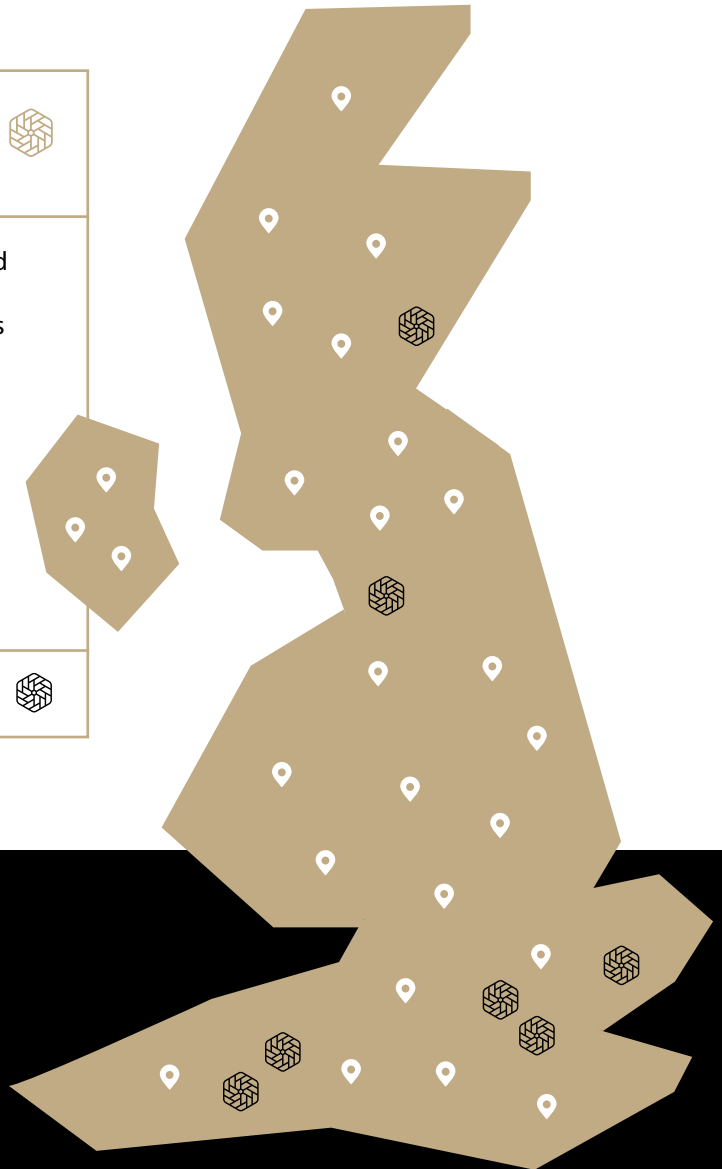
## NATIONAL IMPACT



'The Challenge' has attracted entries from **120** schools, colleges & sixth forms across the UK, including:

- 📍 England
- 📍 Northern Ireland
- 📍 Scotland
- 📍 Wales

## FINALISTS







# MAGIC, MUSIC & INNOVATION





## **EVENT HIGHLIGHTS: MAGIC, MUSIC & INNOVATION**

Our innovative awards will be accompanied by the latest leading-edge entertainment for your enjoyment, including:

### **SOLO STRINGS**

Aelfy Shipton is not your average violinist - she's the show-stopping, bow-wielding sensation lighting up the world's most glamorous stages.

With a career that spans the World Cup, the BRIT Awards, and a spotlight on BBC's Blue Peter, Elphie delivers classical finesse with a modern twist, making her the ultimate soundtrack to our awards.

**VIOLIN  
PLAYING  
BUT NOT  
AS YOU  
KNOW IT!**



## SHOWCASING INNOVATION



You may have noticed the centrepieces on your tables today, which our team have created as a nod to our venue, the Institute of Engineering & Technology (IET). Innovation & sustainability is a key part of the National Innovation Challenge we are celebrating today.

All of these technological innovations have changed the world in some way. We hope one day through this competition an invention is created that will contribute to changing lives for the better.

## TECHNOLOGY MAGICIAN

David Penn is a groundbreaking magician performing incredible close-up tricks and effects using guests' mobile phones!

Prepare to be amazed as the Technology Magician performs the most cutting-edge style of magic using iPads and iPhones.

Amongst many incredible effects, he will read your mind to unlock your phone, will make your phone vanish within your own hands, and produce objects directly from the digital world.

The Britain's Got Talent live finalist, Magic Circle Headliner, British Magical Champion and headliner of the theatre production Champions of Magic, has been commended for his performance by celebrities such as Sir Trevor McDonald, Johnny Vaughan, Ant & Dec, Lord Alan Sugar and Michael Macintyre.

# INTERACTIVE & INNOVATIVE MAGIC AT ITS FINEST







**WORK  
WITH  
US**



# MEMBERSHIP OF THE HRUC INNOVATION PARTNERSHIP (IP)

Opportunities now exist for universities, colleges and businesses to join the HRUC Innovation Partnership (IP), giving access to MIT's resources and innovative ecosystem.

This initiative positions your institution at the forefront of technological advancement and educational excellence.



**NATIONAL  
iNNOVATION  
CHALLENGE**

# SPONSORSHIP OPPORTUNITIES



We aim to build on the success of the National Innovation Challenge in future years, by increasing the scale of the competition and awards ceremony.

Opportunities will exist for partners to sponsor this amazing initiative.

If you would like to discuss the benefits of the HRUC Innovation Partnership (IP) and / or sponsorship opportunities, please contact:

**[yaseen.akhtar@hruc.ac.uk](mailto:yaseen.akhtar@hruc.ac.uk)**



# THANK YOU

On behalf of HRUC, we would like to thank you for attending the inaugural National Innovation Challenge Awards 2025. Your presence demonstrates a shared commitment to shaping a future powered by innovation, inclusion and opportunity.

Today marks more than just an event - it's the beginning of a bold journey to honour the brightest ideas shaping a better, more sustainable future - and inspire the next generation to believe that talent knows no boundaries!

We now invite you to be champions of this mission - to help us scale initiatives, build meaningful partnerships, and influence policies that support future talent.

Thank you once again for your support.