

IET

Excellence

and

Innovation

Awards 2023

Awards Programme

6:30pm GMT | Wednesday, 15 November 2023

theiet.org/innovation

[X](#) [f](#) [in](#) #IETawards

Ed Almond

Chief Executive and Secretary

The Institution of Engineering and Technology

I'm delighted to welcome you to the IET Excellence and Innovation Awards 2023.

Engineers have an extraordinary history of being great problem solvers who continuously work to innovate, find new solutions and push the boundaries to solve complex societal and environmental issues. With climate change being the most significant challenge humankind has ever faced, innovative and creative solutions have never been more needed.

The Excellence and Innovation Awards shine a spotlight on the ground-breaking innovations and best practices in engineering, science and technology, and the fantastic trailblazers who are changing the course of our future.

This year's awards form part of Powering Net Zero week and we have incorporated social and environmental impact across all categories. Each award category has its own panel of judges who are all experts in their field and have had the important task of selecting the finalists and winners.

Congratulations to each and every one of our finalists – it is a great achievement to have reached this stage. With your skills, commitment and passion, you are proof of the positive difference that engineers can make in transforming our world for the better.

Thank you to our judges and sponsors for giving their invaluable support.

I hope you all enjoy the ceremony.



Ed Almond

Chief Executive and Secretary
The Institution of Engineering and Technology



Contents

Welcome	2
Programme and Your Hosts	3
Sponsors	4
The 2023 Finalists	5
Net Zero and Climate Action Award	5
Sustainability Award	6
Power and Energy Award	8
Health Technology Award	10
Future Cities and Smart Technology Award	11
Communications and IT Award	12
Emerging Technology of the Year Award	13
AI and Robotics Award	15
Future Mobility Award	17
Technology for Social Impact Award	18
Start-up of the Year Award	19
People's Choice – Young Pioneer of the Year Award	20
Chief Engineer of the Year Award	21
Engineering Team of the Year Award	22
Rising Star of the Year Award	23
International Award (submissions outside UK and Europe)	24
Chairs and Judges	26
Contacts	30
Dates for your diary	30

Your Hosts



Lorna Bennet
Project Engineer,
ORE Catapult



Elizabeth Donnelly
Chief Executive Officer at
Women's Engineering Society

Don't forget to post your photos, comments and thoughts on social media during the ceremony!
Please make sure you include the hashtag #IETawards

With thanks to our
Category Sponsors

With thanks to our Category Sponsors



nationalgrid

To join this prestigious list and
sponsor next year's Awards, contact:

Louise Hall

T +44 (0) 1438 767 351

E sponsorship@theiet.org

Net Zero and Climate Action Award

This award recognises an organisation making innovations in the fields of engineering, science, and technology that demonstrate a significant contribution to achieving Net Zero and that will contribute to preserving the planet's delicate ecosystem.

The 2023 Finalists are:

AstraZeneca

This innovation is the creation and implementation of a F-Gas site management framework. It utilises and incorporates various methodologies and accepted techniques, brought together to promote and support the delivery of long term sustainability goals, commitments and improvements.

Cyanoskin

Cyanoskin goes beyond traditional paint, as it not only beautifies buildings but also actively captures and reduces CO2 levels in the surrounding area. Once applied, the paint begins to grow and thicken, creating a living layer that acts as a carbon sink. By harnessing the power of photosynthesis, Cyanoskin efficiently absorbs CO2 and helps combat the negative environmental impacts of urbanisation.

GeoPura

GeoPura Hydrogen Power Unit - providing zero-emission electricity for off-grid, temporary and backup power applications, enabling companies to eliminate diesel in the hardest to reach sectors today. Packaged within a 20ft shipping container, a HPU can be delivered to almost any location providing easy access to emissions free electricity.

Pell Frischmann

The development of an open, Embodied Carbon analysis tool for Structures (EC4S), better positioning industry and academia towards addressing the challenges of environmental and sustainability issues. EC4S is an online tool developed within Pell Frischmann that measures and compares the embodied carbon of various substructure and superstructure framing options, considering the whole building's lifecycle.

RheEnergise Ltd

RheEnergise has developed a globally scalable, long-duration energy storage solution called High-Density-Hydro® (HD Hydro®). Energy storage captures renewable energy when it is produced, for dispatch when it is needed, creating flexible, dispatchable renewable power grids and displacing fossil fuel flexibility technologies such as gas-peaking plants.

University of Manchester, Tyndall Centre for Climate Change Research

Demonstrating the Value of Bioenergy with Carbon Capture and Storage for Net Zero and the UK's Industrial Strategy. This project created a BECCS feasibility model that allows assessment of the viability of large scale BECCS deployment in the UK and provides industry with bespoke options to decarbonise their activities.

Sustainability Award

Engineers and Technologists can play a crucial part in designing solutions that contribute to a world where sustainability is part of our everyday lives. With this award, we want to recognise organisations developing, manufacturing, and designing products and processes with sustainability at the core.

The 2023 Finalists are:

Glasgow Caledonian University

This innovation optimises the packing density of building integrated concentrating photovoltaic technology to improve its performance and reduce the embodied carbon through a novel 3-Dimensional hexagonal photovoltaic concentrator. This can reduce the cost and embodied carbon, promote energy efficiency, and improve its performance which will enhance net zero in buildings.

GoCodeGreen

GoCodeGreen measures and identifies action to reduce the carbon impact of digital products and services. Their mission is to help decarbonise the digital world in which we all live.

PulpaTronics

PulpaTronics develops fully recyclable paper RFID tags that eliminate metal mining, simplify manufacturing processes and streamline recycling, thus reducing overall costs and emissions while preserving more of our world's resources.

QiO Technologies

QiO Technologies is an Industrial IoT AI software products company supporting energy-intensive and asset heavy industries, data centre and telecoms companies to accelerate their sustainability and net zero agenda. The Foresight Sustainability Suite™ operates by collecting data from industrial assets ranging from kilns, furnaces, boilers and compressors to cooling systems and data centre servers. The embedded AI accelerates operational sustainability by identifying the most efficient ways to operate assets, then implements real-time actions resulting in immediate reductions in GHG emissions, energy use, production costs and waste.

The University of Edinburgh

The University of Edinburgh's joining and reuse technologies aim to drive sustainable development by addressing technological barriers and enabling the uptake of cost-effective, recyclable thermoplastic-based composites in various industries (e.g. renewable energy).

University of Manchester, Tyndall Centre for Climate Change Research

Demonstrating the Value of Bioenergy with Carbon Capture and Storage for Net Zero and the UK's Industrial Strategy. This project created a BECCS feasibility model that allows assessment of the viability of large scale BECCS deployment in the UK and provides industry with bespoke options to decarbonise their activities.



**We are proud
to sponsor the 2023**

Power and Energy Award

Innovation is a vital part of National Grid Electricity Transmission's plan for a future network. By exploring and nurturing the work done to build that future, we can deliver value to our stakeholders and the end-consumers alike. The key to the future is working with others to deliver a transmission network that reflects the needs of generations to come. That is why we have partnered with IET to make it a reality.

**If you would like to find out more, or to work with us
to shape that future, please email the Innovation team:**

box.NG.ETInnovation@nationalgrid.com

**Electricity
Transmission**

nationalgrid

Power and Energy Award

This Award recognises cutting-edge solutions within the energy sector across the areas of energy discovery, procurement, and distribution.

nationalgrid

Sponsored by National Grid

National Grid Electricity Transmission (NGET) owns and maintains the high-voltage electricity transmission network in England and Wales. That includes around 7200km kilometres of overhead line, about 2800km kilometres of underground cable and 350 substations.

We move electricity from where it's generated, down the 'motorway' of the electricity system, to our direct customers and to the distribution companies that deliver that power to homes and businesses. We play a vital role in connecting millions of people to the energy they use, safely, reliably and efficiently.

Through transformational engineering, we are helping our country to achieve its sustainability targets, by ensuring our network gives fair access to clean sources of energy. The transition to a low-carbon economy is one of the defining issues of the 21st century, and we can't make a bigger difference in today's, or tomorrow's, world than to create a road to net zero.

"We are proud to sponsor the 2023 Power and Energy Award. Innovation is a vital part of National Grid Electricity Transmission's plan for a future network. By exploring and nurturing the work done to build that future, we can deliver value to our stakeholders and the end-consumers alike. The key to the future is working with others to deliver a transmission network that reflects the needs of generations to come. That is why we have partnered with the IET to make it a reality.

*If you would like to find out more, or to work with us to shape that future, please email the Innovation team: **box.NG.ETInnovation@nationalgrid.com**"*

Power and Energy Award

The 2023 Finalists are:

Distributed ReStart

Distributed ReStart Innovation Project – Electricity System Restoration from Distributed Energy Resources. Achieving net zero requires more diverse capability and needs to include greener distributed energy resources (DERs) like wind/solar/hydro/battery that are individually small, but together represent huge opportunity. Making DERs viable for electricity system restoration also improves resilience, increases competition, reduces costs for consumers and supports faster restoration.

EA Technology Ltd, SP Energy Networks

EA Technology and SP Energy Networks have worked together to create ConnectMore, a free to user software platform hosted on the SP Energy Networks website. ConnectMore will improve network and asset efficiency, allowing customers to connect quicker to locations where there is existing capacity accelerating new connections.

Energy Systems Catapult & University of Strathclyde PNDC

The Whole Energy Systems Accelerator (WESA) is a world-first energy innovation test and evaluation facility, enabling interactions between homes, energy networks, and market and policy frameworks to be tested in real-time and across a range of future energy system and market scenarios.

RheEnergise Ltd

RheEnergise has developed a globally scalable, long-duration energy storage solution called High-Density-Hydro® (HD Hydro®). Energy storage captures renewable energy when it is produced, for dispatch when it is needed, creating flexible, dispatchable renewable power grids and displacing fossil fuel flexibility technologies such as gas-peaking plants.

SP Energy Networks

LV Engine is a global innovation project which revolutionises the way we operate the LV networks. By using LV Engine technology, LV networks become active and smart, allowing faster connection of low carbon technologies, deferring conventional network investment, and facilitating Net Zero targets.

University of Manchester, Tyndall Centre for Climate Change Research

Demonstrating the Value of Bioenergy with Carbon Capture and Storage for Net Zero and the UK's Industrial Strategy. This project created a BECCS feasibility model that allows assessment of the viability of large scale BECCS deployment in the UK and provides industry with bespoke options to decarbonise their activities.

Health Technology Award

This Award recognises projects that can demonstrate the use of technology to improve the quality of life of people, providing access to quality health care, efficient diagnosis, better treatment of diseases, and well-being of people.

The 2023 Finalists are:

Genpax

IDEM: New genome analysis capabilities for proactive control of hospital, emergent, and AMR bacterial infections

mPulse-O2

mPulse-O2 is aiming to transform the pulse oximetry technology by overcoming and changing the lack of inclusivity in design and validation of biomedical devices.

Occuity

The AX1 Axiometer™ is an advanced medical device that precisely measures axial length and is the world's first handheld, optical, non-contact meter, crucial in managing myopia. The AX1 promises unparalleled convenience at minimal cost, enabling efficient large-scale screening by optometrists to facilitate earlier diagnosis and more effective management of myopia.

Precision Robotics

Precision Robotics is an innovative early-stage company at the forefront of developing cutting-edge medical robots for natural orifice and single-port procedures. They target early-stage interventions and develop robotic technologies to enable personalised and precision treatments with their portable medical robot.

smartR AI Ltd

alertR™ is a behavioral intelligence-based alerting system providing speedy support and assistance to protect vulnerable individuals. It reduces risks by understanding, interpreting, predicting and responding to unique user behaviors.

University College London / Royal National Orthopaedic Hospital, Stanmore

Virtual reality combined with sensory feedback provided through a robot reduces neuropathic pain in patients with spine and nerve injuries and post-amputation pain.

Future Cities and Smart Technology Award

These shortlisted projects demonstrate how the use of engineering and technology is advancing the transformation towards more sustainable, efficient, and resilient cities that will improve the lives of their residents.

The 2023 Finalists are:

BT Active Intelligence

BT Active Intelligence has created a new data solution that turns anonymised raw data from the EE network into insights. Active Intelligence is uniquely placed to safely share and analyse billions of responsibly sourced, anonymised, and aggregated data points from mobile phone activity across our spectrum. The Active Intelligence platform turns these data points into insights.

Cyanoskin

Cyanoskin goes beyond traditional paint, as it not only beautifies buildings but also actively captures and reduces CO2 levels in the surrounding area. Once applied, the paint begins to grow and thicken, creating a living layer that acts as a carbon sink. By harnessing the power of photosynthesis, Cyanoskin efficiently absorbs CO2 and helps combat the negative environmental impacts of urbanisation.

PulpaTronics

PulpaTronics develops fully recyclable paper RFID tags that eliminate metal mining, simplify manufacturing processes and streamline recycling, thus reducing overall costs and emissions while preserving more of our world's resources.

Communications and IT Award

Communications and Information Technologies are a vital part of our highly connected world, and this award seeks to recognise organisations pushing the boundaries in the communications and IT sectors.

The 2023 Finalists are:

Arqit, Compound Semiconductor Applications Catapult, Lime Microsystems and Slipstream Engineering Design

World's first OpenRAN 5G base station with software-controlled, wideband power amplifiers and cloud quantum encryption.

BT Active Intelligence

BT Active Intelligence has created a new data solution that turns anonymised raw data from the EE network into insights. Active Intelligence is uniquely placed to safely share and analyse billions of responsibly sourced, anonymised, and aggregated data points from mobile phone activity across our spectrum. The Active Intelligence platform turns these data points into insights.

Neutral Wireless, University of Strathclyde, BBC R&D, LiveU, Sony Europe, Haivision

Working with BBC R&D and BBC News, Neutral Wireless designed and deployed a large-scale, uplink-optimised 5G standalone non-public network (SNPN), using shared spectrum to provide over 1 Gbps of uncontested wireless uplink connectivity for domestic and foreign broadcasters. This deployment was the largest temporary private 5G network in the world — featuring 8 radios providing coverage from Buckingham Palace along The Mall to Admiralty Arch.

Anila Ramadani

The objective of this project is how to design effectively Object-Oriented software systems, a knowledge gap found in the applicant's Computer Science and Informatics Division.

Radio Data Networks Limited

A hybrid satellite and terrestrial telemetry based, emergency/temporary flood/flow gauging system and service that permits the rapid deployment of water level gauging stations in urban and remote locations to improve rail safety, flood resilience, drought conditions, plus if required provide real-time local autonomous communications for the control of flood and flow assets.

Emerging Technology of the Year Award

This award recognises emerging technologies demonstrating the use of new technologies to deliver tangible solutions and that can demonstrate commercial opportunities while having a long-term vision and environmental considerations.

The 2023 Finalists are:

FlexEnable

FlexEnable's biaxially formable optical films bring game-changing capabilities to AR and VR optics, enabling tunable lenses and pixelated ambient dimming with almost no additional weight or thickness.

Neutral Wireless, University of Strathclyde, BBC R&D, LiveU, Sony Europe, Haivision

Working with BBC R&D and BBC News, Neutral Wireless designed and deployed a large-scale, uplink-optimised 5G standalone non-public network (SNPN), using shared spectrum to provide over 1 Gbps of uncontested wireless uplink connectivity for domestic and foreign broadcasters. This deployment was the largest temporary private 5G network in the world – featuring 8 radios providing coverage from Buckingham Palace along The Mall to Admiralty Arch.

PulpaTronics

PulpaTronics develops fully recyclable paper RFID tags that eliminate metal mining, simplify manufacturing processes and streamline recycling, thus reducing overall costs and emissions while preserving more of our world's resources.

TurinTech

TurinTech is the leader in code optimisation for machine learning and other data-heavy applications, helping businesses become more efficient and sustainable by accelerating time-to-production and reducing development and compute costs.

University College London / Royal National Orthopaedic Hospital, Stanmore

Virtual reality combined with sensory feedback provided through a robot reduces neuropathic pain in patients with spine and nerve injuries and post-amputation pain.

Zelemiq Ltd

A simple wearable sensor for electrochemically measuring blood chemistry through fully intact skin using novel dermis conditioning technology, no needles, no pain, rapid results.



**We help organisations deliver
innovative systems, engineering
and technology solutions
to make lives safe, secure,
sustainable, and affordable.**

Our experts work in the nuclear, marine, aerospace, transport, defence, power and energy sectors. They are renowned for their security, resilience, cyber and information technology expertise.

fnc.co.uk

AI and Robotics Award

This award recognises applications that can demonstrate an efficient and visionary use or development of AI and Robotics in a variety of fields and industries. Finalists demonstrate the sustainable use of resources, ethical considerations and potential impact of the technology.



Sponsored by Frazer-Nash

Frazer-Nash is a leading systems, engineering and technology company. We help organisations deliver innovative engineering and technology solutions to make lives safe, secure, sustainable, and affordable.

With over 1000 employees, we work from a network of nine UK and four Australian locations. Our people apply their expertise to develop, enhance and protect our clients' critical assets, systems and processes.

We use our skills and talents to ensure a sustainable future for society. Our work helps deliver a safe and secure world, where natural resources are conserved, and clean energy is available to all. And we focus on actions to reduce climate change; supporting rapid and far-reaching transformations in the delivery of energy, security, industry, and transport.

"Engineering and Technology is at the very heart of what Frazer-Nash Consultancy delivers, with a large number of our staff chartered through the Institution of Engineering and Technology. Across the many sectors in which we deliver and support, Artificial Intelligence (AI) is fast becoming a pivotal technological area of focus. A prime example of Frazer-Nash Consultancy's focus on AI is the outcomes and value we deliver through the Autonomous Resilience Cyber Defence Track 1 Programme, where we continue to grow the UK's AI and Cyber supply chain and facilitate the delivery of innovative and novel research, demonstrating how AI can be effectively used within Cyber Defence. It was therefore a natural fit for Frazer-Nash Consultancy to sponsor the AI and Robotics category at the IET Excellence and Innovation Awards on 15th November, in which we also have the honour of presenting an award."

Steve Little, Cyber Lead, Frazer-Nash

AI and Robotics Award

The 2023 Finalists are:

National Grid Electricity Transmission

The age of AI: UK's first trials to develop fully automated overhead line inspection.

Precision Robotics

Precision Robotics is an innovative early-stage company at the forefront of developing cutting-edge medical robots for natural orifice and single-port procedures. They target early-stage interventions and develop robotic technologies to enable personalised and precision treatments with their portable medical robot.

Q5D Technologies Limited

Q5D's 5-axis CNC additive manufacturing robot is first to automate wiring assembly. Q5D's CY1000 unique robotic cell, launched in April 2023, automatically, economically, and securely adds components, connections, and conductors into products or components made of metal, ceramic, or polymer.

QiO Technologies

QiO Technologies is an Industrial IoT AI software products company supporting energy-intensive and asset heavy industries, data center and telecom companies in accelerating their sustainability and net zero agenda.

SEC Storage

DIDO - Data In, Design Out - is an Artificially Intelligent System Optimisation Platform Bot whose role is to design a fully optimised warehouse and ensure it remains optimised post-implementation by running 1000s of iterations of design simulations simultaneously and make design alteration suggestions based upon the data input.

Synthesized

Synthesized is on a mission to make the creation and access of high-quality data fast and easy. The SDK team developed the Synthesized Scientific Data Kit (SDK), which is a Python package that can be used to generate high-quality synthetic data for use in machine learning and data science tasks.

Future Mobility Award

This award recognises applications that demonstrate innovation and ingenuity and that offer sustainable and greener alternatives to our current way of transportation.

The 2023 Finalists are:

Duku

We plan to make the transition to EVs accessible for all by providing a unique EV Charger designed using a research-led process to make charging effortless. The design features ground-breaking, automated cable management which significantly reduces the effort to connect a car to a charger, enabling people with disabilities and poor strength/dexterity the freedom to independently charge their vehicles.

Firstco

The Firstco Vertiport Management System (VMS) is the digital infrastructure required to enable the remote management of a distributed vertiport network and help make Advanced Air Mobility a sustainable reality.

Ricardo Plc

Liquid Hydrogen Cooled Powertrain for Long Haul Mobility. Propulsion inverter with a liquid hydrogen cooling plate featuring microchannels for equal flow distribution and electric machine with liquid/gas hydrogen cooling jacket engineered for large temperature gradients.

Technology for Social Impact Award

Technology can have a positive impact on the lives of people and their environments. This award recognises new applications or improved processes that use technology to address the concrete needs of people and communities.

The 2023 Finalists are:

Apps4Good

Apps4Good presents 'Brave-Hearts' - an app that tackles homelessness through the collective power of the public. They have worked alongside the charity Street Team to develop an app which will allow the user to pin the location of a person in need. The app asks the user for information about the person's condition (e.g. if they appear hungry, cold or injured) and their current location. Then, it's partner technology, the Volunteer Dashboard, displays information to the Street Team so that they can help the person on the go.

Kitt Medical

Kitt Medical - Anaphylaxis Kitts that are 'Just like a defibrillator, but for allergies'. The team have successfully launched a multi-award winning Anaphylaxis Kitt service - providing over 100 schools with a regulated supply of emergency adrenaline pens.

mPulse-O2

mPulse-O2 is aiming to transform the pulse oximetry technology by overcoming and changing the lack of inclusivity in design and validation of biomedical devices.

Northumbria University

This innovation has developed Solar2Water system, a decentralized solution for remote off-grid communities. This innovative water production unit uses solar energy to extract moisture from the air and turn it into clean, safe drinking water.

Zelemiq Ltd

A simple wearable sensor for electrochemically measuring blood chemistry through fully intact skin using novel dermis conditioning technology, no needles, no pain, rapid results.

Zero Gravity Tech Ltd

Zero Gravity is a pioneering social mobility tech start-up that launched in 2019. Their mission is to revolutionise opportunities for students from low-opportunity backgrounds, empowering them to access top UK universities and kickstart their careers by using an innovative platform which leverages proprietary technology that offers personalised learning and mentorship programmes, engaging content, and supportive communities.

Start-up of the Year Award

Start-ups play a crucial role in the technology ecosystem by driving innovation and creating value while bringing agility, flexibility, and new market opportunities. This award celebrates innovators effectively incorporating technology into a compelling business proposal and demonstrating a well-defined strategy for achieving their goals.

The 2023 Finalists are:

Cardeo

Cardeo is a socially responsible consumer fintech transforming the UK credit card market for good. Its principal product is a unique, free app designed to help people manage, and ultimately refinance, their credit card debt.

GoCodeGreen

GoCodeGreen measures and identifies action to reduce the carbon impact of digital products and services. Their mission is to help decarbonise the digital world in which we all live.

Sustainable Sailing Ltd

Sustainable Sailing, is developing technologies to recycle composites and sails in particular at their end of life, through use of the DeeCom process, a novel recycling approach.

People's Choice: Young Pioneer of the Year

The Young Pioneer Award shines a light on innovation and creativity and uncovers amazing tech ideas that are borne out of issues that young people care about. We want to use this award to find a new generation of tech entrepreneurs and inventors who are putting their brilliant minds to new tech solutions that can support a better engineered world.

Unlike the other categories in the IET Excellence and Innovation Awards, you can help decide the winner of the Young Pioneer Award. Voting will close during the ceremony so cast your vote now:



Finalists are:

Zachary Morgan

Make Maths Easier is an online maths learning platform that uses artificial intelligence in order to design tailored lessons for individual pupils ensuring they are being challenged to the level they are working at for every topic, whilst reporting all their hard work to their guardian for added parental involvement.

Sophie Maw

An affordable closed-loop shower system that utilises an innovative dual-filter backwashing technology. It aims to address water usage and sewage storage challenges, particularly in festivals, to promote environmental sustainability.

Chief Engineer of the Year

This award recognises a chief engineer and innovator that has demonstrated over the past 12 months, excellence in engineering and technology innovation as well as leadership.

The 2023 Finalists are:

Natalka Design

This finalist provides evidence of outstanding contribution in leadership in the workplace, inspiring and mentoring peers and colleagues and also championing equality, diversity, and inclusion. Excellence and innovation at large are well presented and appropriately supported. Natalia achieved remarkable business results within her own company and inspired others to develop digital skills, strategic roadmaps and the ability to sum-up complex concepts in a simple and effective way.

Tokamak Energy

This finalist demonstrated outstanding excellence and innovation in the field of engineering as well as leadership in the workplace by means of bringing a culture of devolved responsibility which fostered a culture of camaraderie championing equality, diversity, and inclusion in engineering. With his professional behaviour Robert inspires other engineers and highly qualified technical people to push themselves, achieving remarkable technical and engineering results.

Engineering Team of the Year Award

This award recognises an Engineering Team that has demonstrated over the past 12 months, a spirit of collaboration and leadership.

The 2023 Finalists are:

Aerogen

This team demonstrated true leadership and outstanding teamwork by supporting individuals, encouraging and empowering them to voice their ideas and listening to each other. The key to this was creating a working culture that embraced the diverse backgrounds and expertise of the team members, and understanding their work and communication styles.

Birmingham City University

There is a real sense of team work and collaboration, with many DEIB aspects considered. This is a strong submission describing leadership and teamwork in an academic setting.

Mott MacDonald

The finalists showed a real sense of team work and collaboration, considering each of the team members' diverse skill set. The team worked together to come up with a solution to a real challenge in the engineering industry, and considered user requirements to minimise human error. The team also empowered others by training and upskilling the workforce.

Northumbrian Water Ltd

This finalist demonstrated good leadership in the implementation of a strategy which involved a large team across a vast geographical spread, and the upskilling of technicians. Efficient and effective communication and engagement lead to the successful solution to reduce costs and inefficiencies - with an increase in regulatory expectations.

Tokamak Energy

This finalist demonstrates good leadership, collaboration and key stakeholder management, as well as how the diverse core team were able to work together efficiently, achieving a world first.

University of Strathclyde

This finalist demonstrates collaborative team effort; it is impressive to be able to troubleshoot very quickly in high pressure situations by understanding team and team member capability.

Rising Star of the Year Award

This award recognises an Engineer who has demonstrated over the past 12 months, excellence in engineering and innovation as well as leadership.

The 2023 Finalists are:

Zeba Khanam – BT Group

This finalist is an award-winning, highly cited engineering researcher whose innovations continue to solve complex problems for diverse stakeholders, working towards a vision of building an inclusive and diverse engineering workplace.

Ryan Levett-Lee – FHP ESS

This finalist has led and inspired a growing and diverse team, handled delicate mergers, delivers a high-quality service, promotes and actively designs for sustainability and supports professional development of Engineers.

Jonathan Sinclair – Inlutech

This finalist is dedicated to improving diversity levels in the tech industry and actively lobbies for improved STEM resourcing and promotes technology education.

Vicky Paley – Protium

Vicky Paley is a powerhouse of innovation, adding value to the workplace by tapping into initiatives that make a difference to people, businesses and the world we live in.

Daniel Mitchell – University of Glasgow

Daniel has made a significant positive impact by fostering collaboration among world-changing engineers to solve real-world challenges, breaking down barriers, and encouraging students and researchers to work together in teams.

Shufang Zhu – University of Oxford

This finalist has expertise in Artificial Intelligence (AI) and Formal Methods (FM) to advance Assured Autonomy, has a passion for contributing to the scientific and broader community and has supervisory experience which undoubtedly helps inspire the next generation of Engineers.

International Award

(Submissions outside UK and Europe)

The International Award seeks to celebrate innovations and best practices in the field of Science, Technology, and Engineering from organisations outside the UK and Europe.

From breakthrough technologies to address complex challenges to sustainable business practices with a global impact.

The 2023 Finalists are:

Boston University

This innovation focuses on metamaterials that markedly boost the signal-to-noise ratio (SNR) of magnetic resonance imaging (MRI) and thus significantly improve the performance of MRI, making MRI crisper, faster, safer, and more affordable and accessible throughout the world.

China Electric Power Research Institute

ADPSS is a digital power system simulator based on high-performance PC clusters. It accurately simulates complex power systems with large-scale AC-DC interconnected grids containing high penetration of renewable energy devices.

China Electric Power Research Institute

This technology solves the problem of incorrect operation of protection in renewable-based power systems by identifying and isolating faults in the power grid, greatly reducing the risk of black-outs and ensuring integration of large-scale renewables and grid safety.

GE HealthCare

GE HealthCare took a huge leap forward for patients, radiographers, and radiologists alike with the commercialization of AIR™ Coils. Their inspiration was to design an MRI coil that would free patients from the experience of traditional rigid heavy coils by providing ones that were both comfortable and comforting, like being wrapped in a blanket.

Huazhong University of Science and Technology

Six-degree-of-freedom (6DoF) video is one of the contenders for the next generation of video communication. Audiences with this type of video can engage with the video content through 3DoF for head orientation and 3DoF more for body position/posture in a scenario. As a result, 6DoF video can provide a major immersive visual experiences to the audience.

Sichuan Energy Internet Research Institute of Tsinghua University

This bimodal robotic underwater inspection system solves the detection problem of underwater concrete sediment shielding, and realises high-quality and efficient visual observation of concrete damage, just like looking for floor tile cracks through carpets.



The Institution of
Engineering and Technology

Futures Fund

||
**BECAUSE YOUR
DONATIONS ARE
HELPING CHILDREN
BELIEVE THAT ANYTHING
IS POSSIBLE**



The IET Futures Fund raises money to support the next generation of engineers to find solutions to our most pressing problems.

Donations give more young people the opportunity to access our high quality STEM education programmes, and support young people who would like to pursue a career in engineering.

Our portfolio of programmes are designed to inspire and support future engineers: IET Faraday® Challenge Days, FIRST® LEGO® League and our free education resources encourage children to get involved in STEM. IET Launch Scholarships support engineering students and apprentices who are facing challenges to realise their ambitions.

**Find out how you can help more aspiring engineers
and donate today: theiet.org/futuresfund**



The Institution of Engineering and Technology is registered as a Charity in England and Wales (No. 211014) and Scotland (No. SC038698).
The Institution of Engineering and Technology, Futures Place, Kings Way, Stevenage, Hertfordshire, SG1 2UA.

With thanks to our Judges

Category: Net Zero and Climate Action

Chair

Sophie Harker
Assistant Chief Engineer
of Electric Products,
BAE Systems

Judges:

Bunmi Adefajo
Business Leader - Net Zero
Modelling, Energy Systems Catapult

Inès Tunga
Renewables Practice Manager,
Energy Systems Catapult

Xin YE
Solution Architect, Dassault
Systèmes

F. Timothy Erich CEng MIET
Construction Director,
Power on Connections

Leanne Case
CEO, Vzir Consulting

Ian Golding
Interim CIO, Apem Group

Chris Pye
Net Zero Programme Manager,
Ureenco

Category: Sustainability

Chair

Leanne Case
Director/ CEO,
Vzir Consulting

Judges:

Andrew Morgan
Director, Firstco

Bunmi Adefajo
Business Leader - Net Zero
Modelling, Energy Systems
Catapult

Inès Tunga
Renewables Practice Manager,
Energy Systems Catapult

Robert Mayall
CTO

Sophie Harker
Assistant Chief Engineer
of Electric Products, BAE Systems

Nicola Todd
Head of Strategy and Innovation,
National Grid

Xin YE
Solution Architect, Dassault
Systèmes

Category: Power and Energy

Chair

Jeff Douglas
Energy Sector Executive
Committee, IET

Judges:

Craig McTaggart
Transmission Asset Strategy
Manager, Scottish Power

Nicola Todd
Head of Strategy and Innovation,
National Grid

Dom Barraclough
MD, Finch Consulting

Andy Sellars
Strategy Director, CSA Catapult

Declan Nigel Pritchard
Director

With thanks to our Judges

Category: Health Technology

Chair

Zisis Kozlakidis
Head, Laboratory Services and Biobanking at World Health Organisation

Judges:

Chris Morriss
Deputy Head of Engineering, Roke

Shakeeb Niazi
Author & CEO, The Society for Entrepreneurial Education and Development

Laura Hoang
Senior Human Factors Consultant, ERM

Dinalie Karunaratne
Technology Manager, BSI

Category: Future Cities and Smart Technology

Chair

Paul Surin
Senior Digital Delivery Manager, Neom

Judges:

Andrew Morgan
Director, Firstco

Chris Morriss
Deputy Head of Engineering, Roke

Rob Dartnall
CEO, SecAlliance

Category: Communication and IT

Chair

Bal Virdee
Senior Professor of Communications Technology, London Metropolitan University

Judges:

Imran Shafique Ansari
Lecturer, University of Glasgow

Ruodan Lu
BIM Research Head

You Yang
Prof. and FIET, Huazhong University of Science and Technology

Eur Ing Dr Kevin Mephram
Head CIS Security - Air and Missile Defence Command and Control, NATO Communications and Information Agency

Andy Sellars
Strategy Director

Michael Wilson
Principal Engineer, Powell UK

Category: Emerging Technology of the Year

Chair

Keith Rigby
Principal Technologist, BAE Systems

Judges:

Paul Surin
Senior Digital Delivery Manager, Neom

Mark Darvill
Defence Industry Partner, Ministry of Defence - Defence and Security Accelerator

Eur Ing Dr Kevin Mephram
Head CIS Security - Air and Missile Defence Command and Control, NATO Communications and Information Agency

Rob Dartnall
CEO, SecAlliance

Andy Sellars
Strategy Director

With thanks to our Judges

Category: AI and Robotics

Chair

Steph Wright
Head of AI, Scottish Alliance

Judges:

You Yang
Prof. and FIET

Fran Scott
Creative Director, Fran Scott

Andrew Senior
Researcher at Deep Mind, Deep Mind

Jon Isaacs
Chartered Engineer and Technical Manager, Birmingham City University

Pedro Cardoso
Institute for Systems and Robotics (ISR/IST), LARSyS, ISE, Universidade do Algarve, University of Algarve

Steven Little
Engineering Manager, Frazer Nash

Sophie Arana
Research Application Manager, Alan Turing Institute

Category: Future Mobility

Chair

Henry Tse
Director of New Mobility Technologies, Connected Places Catapult

Judges:

Andrew Morgan
Director, Firstco

Bunmi Adefajo
Business Leader - Net Zero Modelling, Energy Systems Catapult

Andy Macnaughton-Jones
Technical Delivery Manager, Cubic Transportation Systems

Fran Scott
Creative Director, Fran Scott

Laura Hoang
Senior Human Factors Consultant, ERM

Category: Technology for Social Impact

Chair

James Pomeroy
Global Health and Safety Leader, Arup

Judges:

Mike Rose
Consulting Engineer, British Antarctic Survey

Declan Nigel Pritchard
Retired

Neil Thompson
Director, Digital Integration & Delivery, Atkins

Sophie Harker
Assistant Chief Engineer of Electric Products, BAE Systems

Campbell Watson
Development Manager, Network Rail

Category: Start-up of the Year

Chair

Crdr. Matthew Cox
Capability Sponsor, MOD

Judges:

Robert Mayall
Chief Technology Officer & Co-Founder, FREDsense Technologies

Shakeeb Niazi
Author & CEO, Entrepreneurs Succeed with Us

Stephen Lowe
ISS

With thanks to our Judges

Category: People's Choice: Young Pioneer of the Year

Chair

Adekola Lawal
Process Consultant,
Petrofac

Judges:

Thaddeus Anim-Somuah
Global Senior Manager
Sustainability, World Energy Council

Richard Theodore Grant
Data Scientist - Medical Devices

Nathan Ruttley
Electronic Engineer and
Co-Founder, Embedism

Category: Chief Engineer of the Year

Chair

Michele Fiorini
Engineering Manager,
Leonardo

Judges:

Craig McTaggart
Transmission Asset Strategy
Manager, SP Energy Networks

Ian Trotter
CEO (Retired)

Category: Engineering Team of the Year

Chair

Laura Hoang
Senior Human Factors
Engineering Consultant,
ERM: Environmental
Resources Management

Judges:

Stephen Lowe
Head of Product and Performance,
ISS

Mark Kelly
Head of Digital and Innovation,
Bilfinger

Gordon Burrows
Control Operations Manager –
Yorkshire, Northern Powergrid

Category: Rising Star of the Year

Chair

Michelle Govan
Independent Consultant

Judges:

Shakeeb Niazi
Author & CEO, Entrepreneurs
Succeed with Us

Gordon Burrows
Control Operations Manager –
Yorkshire, Northern Powergrid

Ranjit Chagar
Technical Director, AAC Ltd

Category: International Award

Chair

Ian Golding
Interim CIO

Judges:

James Pomeroy
Global Health and Safety Leader,
Arup

Dinalie Karunaratne
Technology Manager, BSI

Eur Ing Brian M Back
Founder / CEO, Radio Data
Networks

Stephen Lowe
Head of Product and Performance
ISS

Timothy Erskine
Electrical Engineer, Tokamak Energy

Will Davis
I & C architect, Commonwealth
Fusion Systems

You Yang
Prof. and FIET, Huazhong University
of Science and Technology

Congratulations to the highly commended finalists and winners of the IET Excellence and Innovation Awards 2023.

The IET Communications team works hard to promote science, engineering and technology in the media. **We would be delighted to work with you to promote your involvement in the awards.**

IET Communications team contact:

Hannah Kellett

T +44 (0)1438 767336

E hkellett@theiet.org

Sponsorship opportunities:

If you are interested in sponsoring an IET Excellence and Innovation Award category next year, please contact:

Louise Hall

T +44 (0) 1438 767351

E sponsorship@theiet.org

Dates for the 2024 awards will be announced on our website in the new year