

2023/2024



Annual report and accounts

Who are we?

A CHARITY

We deliver public benefit from engineering excellence and technology innovation.

A NATIONAL ACADEMY

We provide progressive leadership for engineering and technology, and independent expert advice to government, in the UK and beyond.

A FELLOWSHIP

We bring together an unrivalled community of leading business people, entrepreneurs, innovators and academics from every part of engineering and technology.

OUR VISION

is engineering in the service of society.

OUR CHARITABLE MISSION

is to deliver public benefit through engineering excellence and technology innovation.

We have outstanding convening power nationally and internationally.

We understand how to make systems and innovations make a positive difference to society.

We are trusted for our independence and professional excellence.

Values

In everything we do, we are guided by our five values:

PROGRESSIVE LEADERSHIP

Embodying the courage, commitment and ambition to drive positive change for engineering and society.

DIVERSITY AND INCLUSION

Creating cultures in which everyone can thrive and diverse perspectives enrich our collective performance.

EXCELLENCE EVERYWHERE

Bringing evidence, expertise, integrity and a passion for continuous improvement to everything we do.

COLLABORATION FIRST

Prioritising collaboration and building partnerships to improve outcomes.

CREATIVITY AND INNOVATION

Solving problems and generating opportunities through creative thinking and innovation.

Royal Academy of Engineering Incorporated by Royal Charter

HM King Charles III OM KSO
Patron

HRH The Princess Royal KG KT GCVO QSO
Royal Fellow

HRH The Duke of Kent KG GCMG GCVO
Royal Fellow

Professor Sir Jim McDonald GBE FEng FRSE
President

HRH The Prince Philip Duke of Edinburgh KG KT OM GBE
Founding Senior Fellow

KEY CONTACTS

Fellowship: membership@raeng.org.uk | 020 7766 0600

Events: events@raeng.org.uk

Awards: awards@raeng.org.uk

Awardee Excellence Community: awardees@raeng.org.uk

Front cover photo:

Engineers work with medical robotic equipment
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Juveline Ngum from Cameroon, who was shortlisted for the 2022 Africa Prize for Engineering Innovation for Bleaglee – a smart cooking system made entirely of recycled materials

Foreword



In the year covered by this review we continued to be guided by our overarching goal of harnessing the power of engineering to build a sustainable society and inclusive economy that works for everyone, delivered through our three strands of activity: influencing policy and public perceptions, fostering talent and diversity, and promoting innovation. This year also marked a series of important milestones for the Academy. Our Enterprise Hub and Africa Prize for Engineering both reached their 10th anniversaries having supported hundreds of

innovators in the UK and across sub-Saharan Africa and paved the way for them to access further financing and scale their solutions. Meanwhile, the 10th anniversary of the Queen Elizabeth Prize for Engineering was celebrated through the launch of the *Engineers* gallery – an exciting new partnership with the Science Museum Group.

The Academy has worked closely with the new Department for Science, Innovation and Technology, on topics ranging from quantum infrastructure to digital skills and innovation policy. In addition, we have supported the work of a wide range of other departments, including through our successful Policy Fellowships scheme and projects on net zero and wastewater.

After a period of uncertainty, we also welcomed confirmation that the UK will continue its association with Horizon Europe and the establishment of the £150 million Green Future Fellowships programme, created through a novel funding model. This programme will provide critical funding to leading researchers and innovators to develop practical, breakthrough technologies and climate change solutions to achieve net zero. Each of these announcements reflected enormous behind-the-scenes efforts made by our Fellows and Academy team to make the case for both outcomes.

Our public engagement activity remains a cornerstone of our efforts to inspire underrepresented groups and younger audiences to consider engineering careers. To date, our Ingenious programme has funded over 330 projects across the UK, reaching over four million members of the public; while our This is Engineering campaign videos have attracted more than 65 million views. In November, we also celebrated National Engineering Day 2023 with a reimagined Engineering Icons Tube map that generated widespread media and social media interest.

We continued to strengthen the Academy's presence across the UK. Our education programmes in the West Midlands and Northern Ireland helped teachers enhance the E in STEM and built connections between educators, students and local

£150m

for the new Green Future Fellowships programme.

330+

projects funded by our Ingenious programme.

65m

views attracted by our This is Engineering campaign videos.

industry. Our physical presence through Enterprise Hubs in Northern Ireland, Wales and Scotland is increasing our capacity to support regional development and local entrepreneurs.

Internationally, our Leaders in Innovation Fellowships programme kicked off celebrations marking 10 years of supporting a vibrant global community of innovators. And we met with partners in both South Korea and India to drive forward collaboration on key technologies for net zero.

Throughout our wide-ranging programme of work, one vital theme remains consistent: the involvement and guidance of the Academy's Fellows. None of the progress described in this report would happen without the generosity and commitment of our Fellows, awardees and partners. In the face of momentous challenges ranging from climate change to public health, security, technological disruption and more, it is our unique community that enables us to deliver positive impact, whether through reviewing applications, mentoring awardees, connecting us to local and international ecosystems, shaping our policy advice or championing engineering.

As we look to the future, the Academy will have a new President who will lead the development of the next Academy strategy and enable our continued progress. As we write, we are delighted and honoured that His Majesty King Charles III has agreed to become our first Patron. It is well known that His Majesty has a longstanding interest in the role of engineering in society, particularly in building a more environmentally sustainable world. We greatly look forward to working with him to enhance the UK's capacity to tackle national and global challenges.

In reflecting on the progress made during the period framed by our current strategy, it is heartening to see that the role of engineering is becoming better understood across the UK: engineers are more deeply embedded in policymaking, and engineering innovators are continuing to make great strides. While there are many important challenges ahead, our community can be proud of the role it is playing in ensuring that engineering is truly serving society.

Professor Sir Jim McDonald GBE FREng FRSE
President, Royal Academy of Engineering

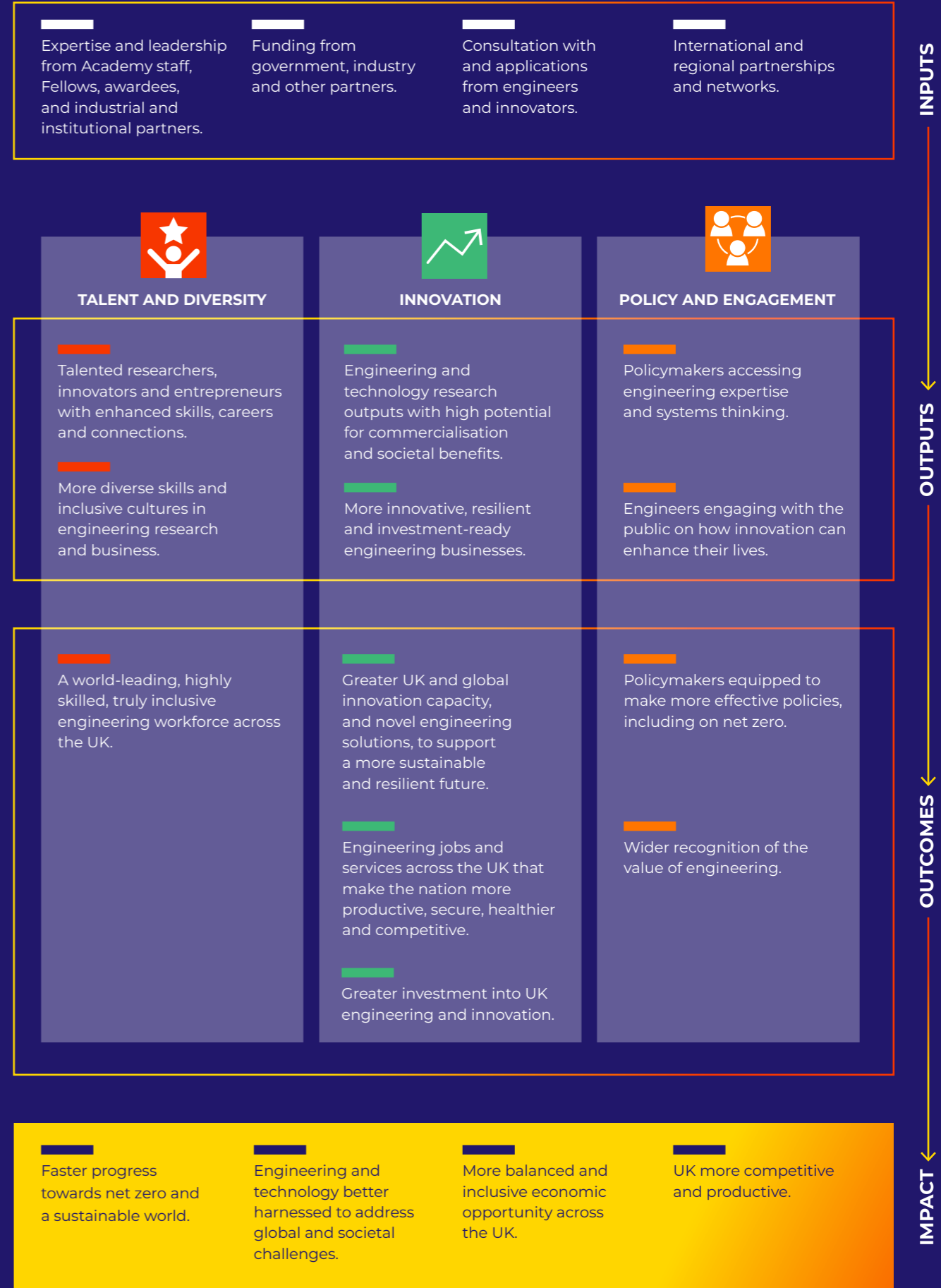
Dr Hayaatun Sillem CBE
CEO, Royal Academy of Engineering
CEO, Queen Elizabeth Prize for Engineering Foundation

10

years of our Leaders in Innovation Fellowships programme supporting a global community of innovators, disruptors and visionaries.

How we create impact

Harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone.



Building a sustainable society...



We supported 15 new industry-academia partnerships for **projects helping to support a net zero future**, from improving energy efficiency, and development of renewable energy sources, to wearable sensors for plants and sustainable fuel for spacecraft, satellites and rocket.

£150m

The then government announced **£150 million investment** in the Green Future Fellowships to support innovators to develop useful, scalable technologies to reduce greenhouse gas emissions and help adapt to the impacts of climate change.

We announced a major new policy project to help the government realise plans to **decarbonise the UK electricity system by the next decade**.

£500k

Engineering X grants totalling **£500,000 were awarded to 16 projects, based in 13 different countries** from Serbia to Senegal, that will build awareness of open burning of waste and help implement local solutions to the issue.

The 2024 Queen Elizabeth Prize for Engineering

was awarded to two of the engineers responsible for advancing the design, manufacture and deployment of modern wind turbine technology.



10 years

The Africa Prize for Engineering Innovation celebrated its 10th anniversary, having **supported 150 engineers across 25 countries** who have developed innovations that have impacted their local communities, from making farming more sustainable to using solar power to harvest safe drinking water.



... and an inclusive economy

We launched Culture+

an online interactive resource to help growing companies to **embed equity, diversity and inclusion** into their workplace.

2,000

The Awardee Excellence Community launched with an inaugural event hosted simultaneously in four different regions of the UK, as well as online. The community brings together **more than 2,000 awardees**.

The Financial Times and Statista named the Enterprise Hub as

one of the top 10 European startup hubs.

Our report, **Engineering, economy and place, delivered a new detailed, place-based understanding of engineering across the UK**, going beyond traditional sectoral analysis to describe how much, what type, where, and in what context engineering is happening.

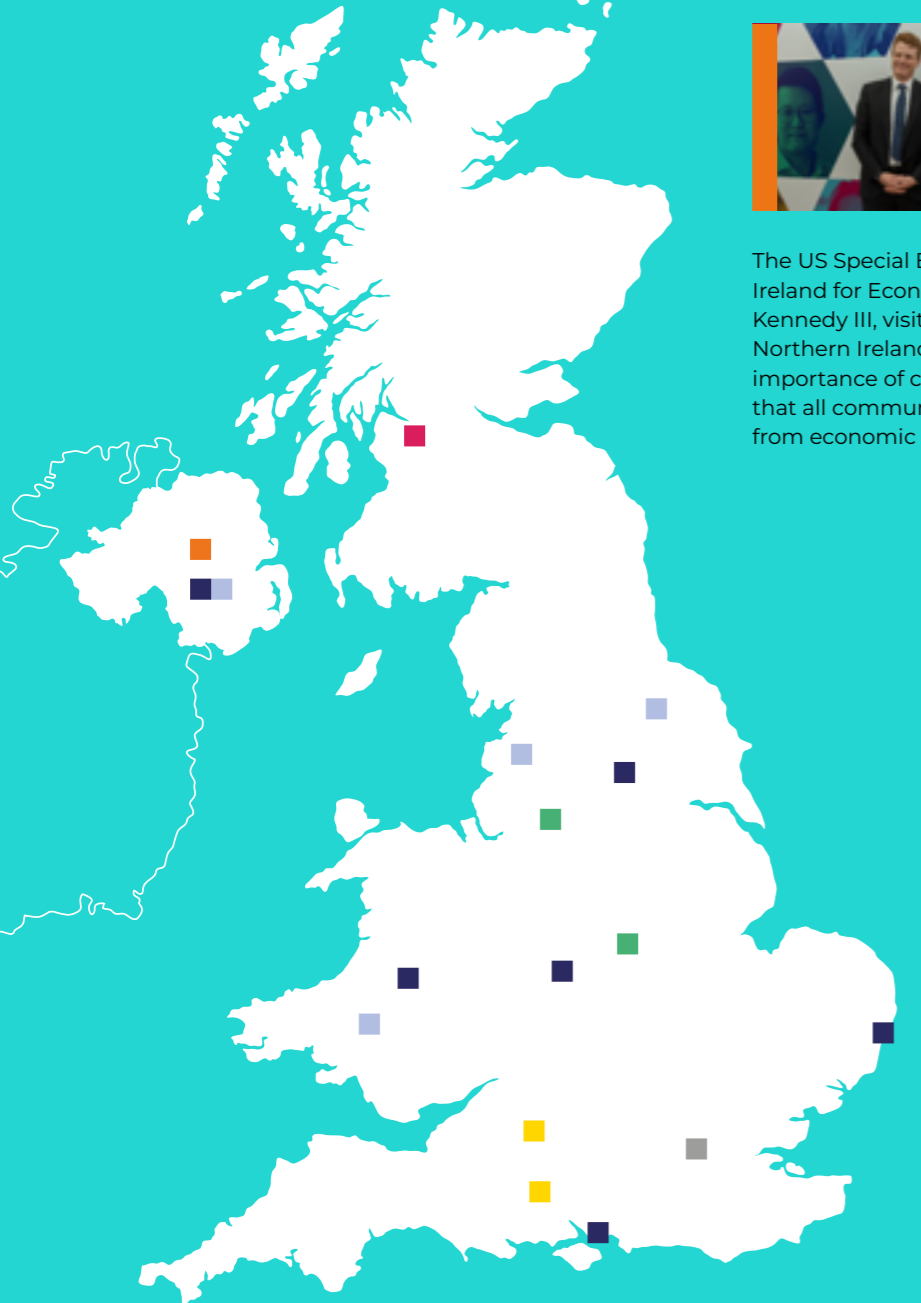


The Queen Elizabeth Prize for Engineering celebrated its 10th anniversary with the **opening of the Engineers gallery at the Science Museum**, bringing engineering innovation to a wider public audience.

We **partnered with the Irish Academy of Engineering and InterTradelreland** to support all-island innovation and engineering policy, creating two new Enterprise Fellowships in Ireland.



Our impact nationally...



The US Special Envoy to Northern Ireland for Economic Affairs, Joseph Kennedy III, visited the Enterprise Hub Northern Ireland, highlighting the importance of collaboration to ensure that all communities can benefit from economic growth.

We secured funding to set up Enterprise Hub Scotland, the Hub's third regional base that will strengthen local innovation ecosystems and create opportunities for tech-specific networking.



The Bhattacharyya Award recognised two Industry-academia collaborations that have benefited society: Loughborough University and adidas for sports equipment and clothing that has improved performance, safety and inclusivity; and the University of Manchester for its work with the nuclear decommissioning sector to provide expertise for quicker, safer nuclear decommissioning.



On National Engineering Day, a Tube map, created with Transport for London, celebrated Engineering Icons, with 274 Tube and Elizabeth line stations named after leading engineers.

The Regional Talent Engines programme has supported 76 early-stage founders across Northern England, Northern Ireland and Wales, who together have gone on to raise £13 million in further funding.

The Academy partnered with the Defence Science and Technology Laboratory (Dstl) to launch a funded Research Chair to work on sensor networks for military intelligence, surveillance and reconnaissance.

In the academic year ending June 2023, our education programmes supported 769 schools throughout the UK and reached over 96,000 students.



Celebrations for the Leaders in Innovation Fellowships programme's 10th anniversary kicked off at eight in-country partner events for LIF Global. Over the 10 years, 1,400 innovators supported by the programme have created almost 7,000 jobs and formed 225 new companies.

Engineering X hosted events at Africa Climate Week and the 19th African Ministerial Conference on Environment in Nairobi to promote the Open Burning of Waste programme.

The Queen Elizabeth Prize for Engineering Foundation and National Academy of Engineering co-hosted a series of live panel discussions at the National Academy of Sciences in Washington, DC, focusing on how engineers in government, academia and the private sector can collaborate to unlock groundbreaking advances that will shape the future of technology.

We attended the annual conferences of CAETS (International Council of Academies of Engineering and Technological Sciences) in Zagreb and Euro-CASE (European Council of Academies of Applied Sciences, Technologies and Engineering) in Madrid, representing the voice of UK engineering in global debates on energy and sustainability.



Over 20 women who have founded early-stage STEM businesses from 12 countries across Africa attended the Africa Innovation Fellowship bootcamp, hosted in partnership with WomHub, in Johannesburg. It is the only pan-African programme that specifically focuses on supporting women-led STEM businesses and serves as a feeder programme to the Africa Prize for Engineering Innovation.



As part of the government's International Science Partnership Fund, an Academy delegation took part in policy exchanges with South Korea on offshore wind and India on green hydrogen, to discuss shared goals, challenges and collaboration opportunities.

...and internationally



Panelists at our diversity and inclusion annual conference in 2023.

Talent and diversity

In the face of complex, evolving and interconnected global challenges, we need more engineers and technicians than ever, with a wider range of skills and perspectives.

To achieve this, the Academy's strategic goals include helping to build an innovative, diverse and inclusive workforce fit for the future – both in the UK and internationally – and ensuring that workforce is supported in its ongoing development. ♦

Green investment

One of 2023's highlights came in September when then Prime Minister Rishi Sunak announced a commitment to create a new £150 million Green Future Fellowships programme to be delivered by the Academy, which will support leading engineers and scientists to develop useful, scalable technologies and solutions to help the UK and the world reach net zero and adapt to a changing climate. The Green Future Fellowships will support research and innovation at all stages of development. Awardees will receive up to £3 million over a duration of up to 10 years, as well as bespoke non-financial support to help them maximise the impact of their work.

Delivered via a fund that is expected to be applied over 20 years, this novel approach offers a level of flexibility not currently possible within our standard annual budgets from government, which will enable us to attract talented engineers and scientists to the UK and fund outside the university system in new ways. That government was willing to fund us in this new way reflects the high level of confidence they have in the excellence of our programmes.

We received the funds in March 2024 and from 2025 onwards, we will make at least 50 Green Future Fellowship awards at about 10 each year. Working with these talented engineers and scientists will be a unique opportunity for us to support the creation of systems and solutions to address the climate crisis.

In 2023/24, we also made 12 new awards under our Research Fellowships scheme, bringing the total number of early-career researchers supported to 100. These five-year awards support them to become future research leaders in engineering, establishing their independence and international reputation. We also provide ongoing training, network building, and mentoring support. The awards cover a range of engineering research topics, from safe storage of nuclear waste, early detection and mitigation of Alzheimer's disease, to improving breast cancer diagnosis and water supply for communities in low- and middle-income countries. Highlights from our Research Fellows across the year include: Dr Reshma Rao from Imperial College London winning an Asian Women of Achievement Award; Dr Lewis Owen from the University of Sheffield starting a podcast on materials science and engineering; and Dr Auro Perego from Aston University publishing a popular science book in two languages 📖



Future engineering leaders

The MSc Motorsport awardees at Silverstone Museum with Stuart Rogers, the Academy's Programme Officer for Higher Education (far left) and Lynda Mann, the Academy's Head of Education Programmes (third from right).

The first MSc Motorsport scholarships were awarded to five engineering students from Black or mixed Black ethnic backgrounds. Supported by Sir Lewis Hamilton MBE HonFREng's charitable foundation Mission 44, the scholarships provide financial and career support to individuals completing their master's in motorsport or a related degree. The awardees attended a networking event at Silverstone Museum in October 2023, where they met with staff from the Academy and Mission 44, had a Q&A session with engineers from the Mercedes-AMG PETRONAS F1 Team, toured the museum and had sessions on the simulator. The announcement attracted regional and national coverage, including a feature on BBC South Today evening news.

In 2023, we made 28 new awards through our Engineering Leaders Scholarships programme. The programme supports undergraduates at UK higher education institutions who display the potential to become leaders and innovators in engineering. The funding can be put towards their personal development while studying, and they also have access to a mentor and an alumni community of over 300 engineers. Fern Ellis, a bioengineering undergraduate at Loughborough University who was awarded a scholarship in 2022, says that the programme "has allowed me to develop as an engineer ... I have been introduced to a variety of different people and have gained new perspectives on engineering. My knowledge and confidence has grown with each of these interactions ... [and] I believe these skills will be beneficial for my future career pathway." 📖

50

Green Future Fellowships awards planned from 2025, at about 10 each year.

12

new awards under our Research Fellowships scheme, made in 2023/24.

100

the total number of early-career researchers currently supported by the Academy.

28

new awards through our Engineering Leaders Scholarships programme.



Workshop attendees discuss the Awardee Excellence Community's goals, while Dr Billy Boyle FREng, Co-Founder and Director of Owlstone Medical, gives the keynote speech at the London event.



Awardee Excellence Community

Over 150 awardees from different programmes joined us for simultaneous events held in Belfast, Glasgow, London, Sheffield, and online to launch the Awardee Excellence Community. The inaugural event combined keynote speeches, provocations and workshops, and 100% of attendees said they would join another Awardee Excellence Community event in the future. Attendees stated that "it was great to share ideas with the other awardees" and that the regional locations "meant making local connections and having an easier overview [of the] number of attendees, which meant being able to speak with everyone". We also launched an online portal for awardees on the Academy website, which hosts exclusive content including news, opportunities and events, and a place to connect with current and past awardees

150+

Over 150 awardees from different programmes.

Seeking views on engineering education

Undoubtedly, engineers and engineering are playing a critical role in addressing complex challenges. In March 2024, we launched a consultation that aims to help ensure we have future engineers and technicians to do just that. Engineers 2030, a National Engineering Policy Centre (NEPC) project led by the Academy, aims to address a decades-old shortfall in appropriately trained engineers and technicians required in the UK and more widely, and to rethink engineering and technology skills for a world in which people and the planet can thrive. A vision and principles paper comprises a view of what engineers and technicians need to be in 2030 and beyond, based on consultations and evidence collected over the last 12 months.

The demands on engineers are driving the need for engineering itself to be transformed to help reshape modern society. This consultation is part of a drive to articulate what we are aiming for so that we can start to work out how to achieve this aim. The consultation was launched alongside a Re-imagined Degree Map, co-created with Engineers Without Borders UK, and a Sustainability Toolkit, developed in partnership with the Engineering Professors Council and Siemens, to help academics embed sustainability into their teaching

The demands on engineers are driving the need for engineering itself to be transformed to help reshape modern society

75

We support 75 women studying STEM-related degrees at UK universities through Amazon Future Engineer bursaries.

£1m+

in funding has been awarded via Amazon Future Engineer bursaries since 2021.

750

In 2023/24, we enabled 750 exceptionally talented engineers and researchers to come to the UK via the Global Talent visas scheme.



Enterprise Hub members demonstrate their innovation at our 2023 spring Hub Showcase.

Engineering innovation and enterprise have the power to improve productivity, competitiveness, public health, safety and security, as well as driving us towards a more sustainable future while also delivering economic and social value for people from all parts of the UK and beyond

Our strategy focuses on supporting engineering innovators to thrive and develop commercially scalable solutions, while encouraging increased and closer links between industry and academia. We do this in several ways, from supporting entrepreneurs directly and investing in research to working towards an evidence-based and supportive policy environment. ♦

Innovation

Ten years of enterprising innovation

In 2023/24, we achieved some significant milestones: 2023 marked the 10th anniversary of the Enterprise Hub, and both the Africa Prize for Engineering Innovation and Leaders in Innovation Fellowships programme kicked off celebrations for their 10-year celebrations in early 2024.

For 10 years, the Enterprise Hub has continuously delivered on its goal to connect exceptional talent with industry-leading expertise and investment, having established a firm foundation and a strong, distinctive offering for entrepreneurs and business leaders across the UK. George Wright, CEO of music technology company Vochlea Music, completed the Enterprise Fellowships programme in 2018 and says: "Without the Enterprise Hub, Vochlea would have failed before it started ... I was very fortunate to be backed by the Hub and have the greatest respect for their mentorship and support." To date, it has supported nearly 400 researchers, graduates and SME leaders, who have gone on to start-up and scale-up businesses that have raised £2.4 billion in additional funding.

As well as building a rich community of entrepreneurs and business leaders, we are supporting regional development and strengthening local innovation ecosystems by establishing a physical presence in multiple locations and supporting innovators through Regional Talent Engines. This accelerator scheme offers mentoring, peer-to-peer networking and training to help businesses in Northern Ireland, Northern England and Wales to scale up. In December we published our first-ever report on the state of the national deep-tech ecosystem. This found that the UK is home to nearly 3,500 deep tech companies but that the sector is dominated by men, with more than 77% of founding teams being all-male. Only 15% of founder teams are mixed gender and just 7.5% are founded solely by women. We also held a well-attended discussion event titled 'What does the future hold for UK spinouts?' reflecting on the government-commissioned independent review of university spinouts, which the Academy helped to inform through two roundtables held with Enterprise Hub members and the review secretariat ♦



Judith McMinn is Founder and CEO of Rezon, which has developed Halos®, a sports headband for concussion and sub-concussion protection. Judith received support from our Regional Talent Engines programme.

"I had not been part of any formal accelerator programme, nor a peer group for support, or had structured learning or formal mentoring before the Regional Talent Engines programme. So, at this critical junction of scaling up Rezon, [the association with] the Academy has been game changing. Having access to peers, Academy insights, building networks and connections, and high-quality training have all been massively beneficial, for which I'm extremely grateful."

400

innovators have been supported by the Enterprise Hub.

£2.4bn

in additional funding raised by Enterprise Hub alumni.

157

startups and spinouts launched by Enterprise Fellows.

Celebrating global engineers

In 2023, the Africa Prize for Engineering Innovation was awarded to two winners for the first time. Ugandan electrical engineer Anatoli Kirigwajjo won with his community 'panic button' inspired by traditional African warning drums, while South African biomedical engineer Edmund Wessels won with his portable gynaecology device, designed to increase access to reproductive healthcare for women in remote areas. The winners join over 140 entrepreneurs across 23 African countries, who have collectively raised over US\$39 million in finance, created over 28,000 jobs, and introduced more than 470 products and services to the market in more than 40 countries across five continents. Alumni are working to tackle many of Africa's most pressing development challenges, including access to power, food, and water security, adapting to climate change, and improving public infrastructure. Over 10 million people have benefited from the engineering innovations and employment opportunities they have created.

In January 2024, we celebrated the prize's 10th anniversary at an event at Prince Philip House attended by the Academy's Royal Fellow HRH The Princess Royal. The Academy's Royal Fellow presented a special medal to previous winner Neo Hutiri, who also received £50,000 to further support his business, Technovera, and its product, Pelebox Smart Lockers, which is designed to improve access to chronic disease medication. The medal was one of 35 anniversary grants, prizes, and accelerator programme awards, together worth over £1 million across 2023/24 and 2024/25, invested in African innovators solving key development challenges on the continent

In early 2024, the Leaders in Innovation Fellowships (LIF) programme kicked off its 10th anniversary celebrations during in-country events for LIF Global.

The programme's success so far was highlighted when then UK Foreign Secretary, Lord David Cameron, visited synthetic biology spinout BIOM at Chulalongkorn University, Thailand, at an event showcasing the technological innovation that foregrounded the value of UK–Thai partnerships. At a reception in South Africa, Deputy High Commissioner to South Africa Adam Bye OBE discussed the value that the programme has offered to global innovation and entrepreneurship.

The Academy established LIF in 2014 to support innovators from around the globe to commercialise lab-developed technologies that could benefit society. Since then, the programme has successfully trained and mentored over 1,400 innovators from 19 countries in addressing the UN Sustainable Development Goals. In 2020, the programme's scope expanded to form LIF Advance, designed to support alumni scaling engineering



Neo Hutiri, Africa Prize Alumni Medal winner, at the 10th anniversary celebration event.

solutions to key socioeconomic and environmental challenges. It focuses on relationship-building and business growth activities for innovators working on a sustainability project at a technology readiness level 7 or above. On average, each innovator who has completed the programme has created a further nine job positions and established 1.4 partnerships with organisations in the UK

10m

people have benefited from the engineering innovations and employment opportunities created by Africa Prize alumni.

“The Africa Prize was instrumental in accelerating Technovera-Pelebox Smart Lockers over the past five years. It has provided a community that has in the past and continues to support and inspire as we move forward.”

Shaping science and technology policy

In April 2023, we hosted our inaugural 'Innovation Incoming' panel event on technology and the future, sharing predictions about future innovations that will shape our lives in the year ahead and in the long term. The wide-ranging discussion explored the potential impacts of upcoming developments in virtual and mixed reality, neurotechnology, quantum technologies, AI, and semiconductors on our future. It also focused on how we can ensure innovation is not just disruptive, but also responsible, ethical and targeted towards solving societal challenges. The same day, we launched a new policy position paper outlining the radical changes needed for the UK to purposefully harness science and technology (S&T) to secure comparative advantages in a range of areas, including security and the environment, which featured contributions from several key players in the UK's innovation ecosystem.

In the autumn we hosted the second Innovation Incoming on the future of clean energy technology. The evening was held in honour of clean energy pioneer Ceres Power, which won the 2023 MacRobert Award, and opened with an address from its Chief Technology Officer, Dr Caroline Hargrove CBE FREng. The company's groundbreaking reversible fuel cell technology can be used for power generation or to produce green hydrogen via electrolysis, which it discussed in national print, broadcast, and online media interviews after its win – including with *The Times*, Times Radio, BBC Radio 5 Live *Wake Up to Money*, and BBC Radio 4 *World at One* 📌



Dr Caroline Hargrove
CBE FREng, CTO of
MacRobert Award
winner Ceres Power

The wide-ranging discussion focused on how we can ensure innovation is not just disruptive, but also responsible, ethical and targeted towards solving societal challenges

Investing in world-leading research

Since 2018, the Academy has invested over £100 million into the Chairs in Emerging Technologies (CiET) programme, supporting 43 global research visionaries over 10 years. Funded by the UK Department for Science, Innovation and Technology, the programme provides long-term support to enable researchers to advance innovative technologies in a strategic way.

After completing nine mid-term reviews in early 2023 to evaluate the chairs who received awards in 2018, a further five reviews have taken place so far in 2024 – with more to follow by the end of 2024.

The site visits took place across the country, including Glasgow, Edinburgh, Manchester, York, Oxford, Bristol, and London. To date, the 14 CiETs that have completed reviews have raised £140 million in additional funding; supported 357 team members; created 14 spinout companies; and fostered 205 UK and 165 international collaborations.

In March 2024, we announced four new awards. Each received £2.5 million for research focused on areas including how atomically thin semiconductors can enable more energy-efficient electronics and harnessing the power of the sun in the upcycling of biomass and plastic waste into sustainable chemicals.

In February 2024, UK Research and Innovation (UKRI) disclosed three funding announcements aiming to develop UK research excellence in several thematic areas that will be supported by many of our CiETs and Research Chairs. Part of the funding will see several of them lead hubs in areas including developing AI for faster, cheaper, greener, and overall, more power-efficient electronics; transforming the next generation of high voltage electronic devices using wide or ultra-wide bandgap compound semiconductors; using AI to improve healthcare; and focusing on engineered genetic control systems for advanced therapeutics 📌

252

awardees from research schemes currently mentored by Academy Fellows.

£4.84

in follow-on funding from industry secured by awardees for every £1 of grant funding received (of those programmes that are industry enabled).



Students take part in a speed mentoring event with some of the women engineers featured in the Science Museum's new *Engineers* gallery, supported by the Queen Elizabeth Prize for Engineering, at its opening.

To help drive prosperity and increase progress towards a sustainable, inclusive future, engineering expertise should be at the heart of decision-making – across government, within communities and internationally.

Guided by our strategy, we aim to ensure that engineering expertise is easily accessible to policymakers and that engineers engage with wider society to increase awareness of its relevance and impact, building excitement to inspire young people to join the profession. Building international networks and collaborations is also aiding understanding of how engineers can contribute to solving complex global challenges. ♦

Policy and engagement

A focus on AI

Following the public launch and mass uptake of ChatGPT in 2022, which marked a watershed moment in the history of AI, in 2023 the Academy launched a series of thought leadership articles titled 'Engineering Responsible AI'. Authored by leaders in the field, from legal experts to software engineers, the series explores themes around the safe and ethical development and deployment of AI. A second set was launched ahead of the government's AI Safety Summit in November and the series also builds on recent National Engineering Policy Centre (NEPC) work on AI and autonomy, and its safe and ethical use. Hearing from a range of voices will be critical to realising the benefits of AI and to managing the potential risks presented in the short, medium and long term.

In March 2024, the first People's AI Stewardship Summit was held at Enterprise Hub Northern Ireland. We invited members of the public to share their hopes and fears alongside experts and local stakeholders, and to reflect on how AI could be developed to benefit society. The summit brought together a mix of diverse voices – the public, industry, policymakers, and academics – with an aim to listen to what the people of Belfast want from AI, ensuring their preferences are heard as we shape the future of these technologies. It was held as part of our Futures and Dialogue work, which is using foresight techniques and engaging with the public and other stakeholders to inform policy and policymakers 🏠

Decarbonising the grid

In early 2024, funded by a grant from the Gatsby Charitable Foundation, we launched a major new policy project to identify the steps needed to deliver a rapid decarbonisation of the electricity system in the UK. The project aims to provide insight and potential solutions to the challenges. It is targeted at policymakers and the wider energy industry and will focus on what a credible engineering-led delivery plan would require in practice.

The work builds on an earlier series of five NEPC workshops on decarbonising the electricity grid, with more than 80 participants from industry, academia and research 🏠

\$1.3m

awarded by the UN Environment Programme's Climate and Clean Air Coalition to a consortium led by Engineering X for projects to help stop the open burning of solid waste, a global practice that has catastrophic effects on human health and the environment.

Policy outputs

Throughout 2023/24, the NEPC and Academy have provided independent, authoritative advice to government, as well as responded to parliamentary, governmental and other consultations with an engineering dimension.

In 2023, hundreds of UK schools and seven NHS Trusts were identified as having reinforced autoclaved aerated concrete (RAAC) that had reached the end of its engineered life. On behalf of the Cabinet Office, the NEPC hosted a roundtable to explore the wider risks and opportunities in the built environment and the implications for the ongoing response to RAAC. Seven central and local government and arm's length bodies were represented at the roundtable.

The Department for Science, Innovation and Technology commissioned the Academy to conduct an independent review of the UK's quantum infrastructure needs.

The report from the House of Lords Communications and Digital Committee's inquiry on large language models heavily references and cites the Academy's submission.

We published *Building resilience: lessons from the Academy's review of the National Security Risk Assessment (NSRA) methodology*, which was commissioned by the Cabinet Office Civil Contingencies Secretariat. The NSRA is a classified assessment of the risks that could cause a national-scale emergency in the UK and informs plans to mitigate those risks. Our review builds on engineering best practice for the design of scenarios, exploring the interdependencies between different risks, and how to build resilience thinking across an organisation.

Following discussions with Chief Medical Officer, Professor Sir Chris Whitty KCB FRS, we initiated a project exploring the engineering interventions that can reduce exposure to human faecal pathogens in treated effluent and storm overflows. An evidence-gathering workshop in February was attended by over 60 experts, including policymakers from Defra, UK Health Security Agency, the Department for Health and Social Care, and the Environment Agency.

We held a bespoke systems workshop for the Scottish government on decarbonising heat in buildings. Participants involved in the workshop's co-design believed that it delivered a range of benefits including insightful stress testing of their low-carbon heating regulatory framework, increasing their understanding of stakeholder needs and changing the way in which their team develops policy.

Through our systems approaches in government programme, we delivered seven systems 101 workshops and four systems teach-in sessions to stakeholders in central government, arms-length bodies, international partners and with our policy fellows.



Systems approaches for policy fellows

The panel at the Policy Fellowships Showcase (L-R) Adam McKenzie-Jones, Professor John Clarkson FEng, Dame Judith Hackitt DBE FEng, Tamara Finkelstein CB, and Academy CEO Dr Hayaatun Sillem CBE.

2023 marked five years since we first launched our Policy Fellowships programme. We have now supported 71 policy fellows in central, devolved and local government; arm's length and public bodies; and other organisations such as the NHS or social change foundations. In 2023, 16 policy fellows met 158 engineers across all disciplines in academia and industry and covered an extraordinary range of topics, from a cross-government approach to chemical and biological defence in the UK and establishing a net zero trajectory for transport infrastructure, to addressing systemic issues in child criminal exploitation. Our first Policy Fellowships showcase in October 2023 highlighted programme alumni's innovative approaches to policy development and launched its second publication *Managing complexity: how systems approaches can deliver better policy*. Owing to the success of the Policy Fellowships programme, we are now completing a pilot for a Senior Policy Fellowships programme, which will be launched in 2024/25

Introducing engineering to a wider audience

In 2023, the Queen Elizabeth Prize for Engineering (QEPrize) celebrated 10 years of championing bold, groundbreaking engineering innovation that is of global benefit to humanity. In June – on International Women in Engineering Day – the Science Museum opened the new *Engineers* gallery, in partnership with the QEPrize. Aiming to reach a wider public audience, the gallery is dedicated to world-changing engineering innovations and the diverse and fascinating range of people behind them, showcased through the lens of the QEPrize. It features stories from more than 60 engineers working in a broad range of industries, such as farming, fashion, robotics and medicine. By the end of the 2023/24 financial year, the gallery had attracted around 900,000 visitors since it opened and 63% of those were part of family groups.

Then in October, His Majesty King Charles III presented the 2022 and 2023 QEPrize trophies to laureates, whose innovations embody the prize's values of being fundamental to our day-to-day lives and integral to a sustainable future, during a ceremony at Buckingham Palace for the first time since the COVID-19 pandemic. The presentation was followed by a gala dinner at the recently transformed Old War Office in London to celebrate the prize's 10th year, bringing together laureates past and present with 'Create the Trophy' winners, ambassadors and donors.

With a similar focus on engaging the public with engineering, in November 2023, National Engineering Day aimed to show the nation that engineering is for everyone, while demonstrating the varied skillsets the profession can require. Public polling released on the day found that 64% of UK adults believe engineers play a vital role in addressing many of our societal challenges, including climate change, but it also uncovered outdated misperceptions, many held by young people, that could hold back the UK's transition to a sustainable, low-carbon economy.

To bust these myths we launched an 'Everyday Engineering' competition supported by *Dragons' Den* star Deborah Meaden that invited anyone and everyone to submit their ideas and

900,000

visitors to the the Science Museum's new *Engineers* gallery by the end of the 2023/24 financial year.

innovations for making our lives more sustainable. The winning entry was Eleria, a portable cleaning and sterilising case for menstrual cups, while the other finalists included a hanging pendant light made from 3D-printed 'nuisance' algae-based bioplastic and a customisable vertical farming unit for gardens. Our Engineering Icons Tube map, created in partnership with Transport for London, also featured on Londonist, Yahoo, Rail UK, and more. The map highlighted many of our Fellows and QEPrize recipients, along with historic pioneers who built London, the UK and wider world, and some of the most exciting talent who are shaping tomorrow.

Among the day's media highlights were BBC News covering the Bristol-based finalists, along with a series of radio interviews with Yewande Akinola HonFREng, Ana Avaliani (Academy Director of Enterprise) and Dr Rhys Morgan (Academy Skills and Inclusion Strategic Director). Academy CEO, Dr Hayaatun Sillem CBE, discussed how the green transition will fail without more engineers in a comment piece in *New Scientist*. Throughout the day #NationalEngineeringDay trended in the UK on X (formerly Twitter) and there were over 61 million impressions from the hashtag on X alone and over 25,000 engagements with Academy posts. Supporters also included Sir Tim Peake; Sadiq Khan; Google UK MD Debbie Weinstein; organisations including the Science Museum and Ferrari; and partners such as MBDA and Venterra 📌

110+

events hosted in 2023/24. International events made a full return in-person after a four-year gap and the number of online events have almost doubled compared to previous years.

Bristol-based Monica Wai (left) and Kira Goode (right), winners of the 'Everyday Engineering' competition on National Engineering Day.



Nuclear engineer and former *Great British Bake Off* winner, Dr Rahul Mandal (right), and colleague demonstrate chocolate welding at Innovation Late.

Showcasing innovation

On National Engineering Day in November, our first Innovation Late event took place. Targeting an audience new to engineering, it aimed to make engineering approachable, fun and relatable to everyone, while showing how it is making a positive impact on people's lives and the planet. The event featured a diverse range of interactive exhibits and speakers that would excite the general public including edible bubbles and edible seaweed packaging, levitating cocktails and robotic dogs. Almost three quarters of attendees didn't consider themselves engineering students or professionals and 87% had never been to an Academy event before, while 61% said that it had changed their opinions about engineering. Collaborations with the Design Museum and Science Museum helped promote the event to new audiences and it received coverage in Londonist, on BBC Radio London and in other media 📌

4m+

members of the public have engaged with engineers and engineering through our Ingenious programme.



The Academy's staff team continues to grow.

People and operations

Our credibility as a charity, National Academy and Fellowship with a mission to deliver public benefit from engineering excellence and technology innovation is underpinned by our ability to deliver.

In order to deliver on the ambitions in our strategy and to create the best experience for everyone connected to the Academy, we are working intensively to improve our operational capability and our capacity to attract, retain and engage excellent staff 🌟

In 2023/24, key actions from the updated People Strategy started to take shape, focusing on the three central strands of employee voice and engagement, talent management, and people excellence. In April our new Academy Voices group met for the first time to begin identifying opportunities to take forward the suggestions and concerns of the wider staff team, as well as create solutions and drive positive meaningful change.

Towards the end of the year, we launched our new talent management approach. This strategic management of all our key people activities aims to provide an environment where individuals and teams can be successful, productive and thrive. To do this, it focuses on development, progression and recruitment, rewarding and recognising staff achievement, and providing them with the support and tools to carry out their duties effectively. We have signed up to Business in the Community's Race at Work Charter and published a report that sets out the actions and progress against each of the commitments as defined by the charter. We voluntarily report and share pay gap analysis, and for the first time in 23/24, we shared data for the ethnicity pay gap as part of our commitment to the Race at Work Charter.

Digital strategy

At the beginning of the financial year, we set out a goal for the Academy to be perceived as a digital leader; deploying digital technology, skills and relationships to increase efficiency and better connect with our Fellows, policymakers and other stakeholders. A key element of the digital strategy is ensuring that we have the resources we need to implement and support teams through any changes to ways of working. A Digital Programme Board, consisting mainly of Fellows and reporting to the Audit and Risk Committee, provides support and oversight to the Executive Leadership Team on the implementation of the digital strategy. An employee-led Digital Programme Group makes decisions on prioritisation of, and inclusion in, the roadmap of digital activities across the Academy. In July, we appointed an Associate Director of Digital and we also created a new position of Senior CRM (customer relationship management) Systems Manager – both these roles added much needed capacity to successfully deliver the strategy 📌

233

Our staff team continues to grow, rising from 184 employees in April 2023 to 233 in March 2024.

£4.6m

In the last year, the Academy secured £4.6 million in new funding commitments for its programmes from industry, charitable trusts and individual donors.



Academy award winners (L-R) Dr Robert Leah, Professor Mohan Edirisinghe OBE FREng, Professor Graham Reed FREng, and Professor John Clarkson FREng with President Professor Sir Jim McDonald GBE FREng FRSE (centre).

AGM awards

At our AGM in September 2023, we awarded four of our prestigious prizes and medals. Dr Robert Leah, Research Fellow at Ceres Power, received the 2023 Armourers and Brasiers' Award for his successful application of novel materials science and engineering to green energy technology. The biennial prize is awarded to a UK-based individual for excellence in materials engineering. Professor Mohan Edirisinghe OBE FREng, Bonfield Chair of Biomaterials at University College London, was awarded the Colin Campbell Mitchell Award 2023, for his outstanding contribution to polymer engineering and manufacturing. Professor Graham Reed FREng, a world-leading expert in silicon photonics, received the Sir Frank Whittle Medal, which is awarded to a UK-based engineer whose outstanding and sustained achievements have had a profound impact on their engineering discipline. Finally, Professor John Clarkson FREng was awarded the President's Medal in recognition of his enormous contribution to the Academy's work, particularly in healthcare systems policy 📌

A Fellowship fit for the future

Our Fellowship represents an unrivalled community of leading businesspeople, entrepreneurs, innovators, and academics from every part of engineering and technology. Over the past year, Fellows have volunteered an estimated 22,500 hours to support the next generation of engineers and address societal challenges.

Our Fellows elected in 2023 reflect the Academy's ongoing Fellowship Fit for the Future initiative, meeting its aim of electing 50% from underrepresented groups. The initiative is driving more nominations of outstanding engineers from underrepresented groups ahead of our 50th anniversary in 2026. It sees the Academy striving for increased representation of women, disabled and LGBTQ+ engineers, those from ethnic minority backgrounds, non-traditional education pathways and emerging industries, and those who have achieved excellence at an early career stage.

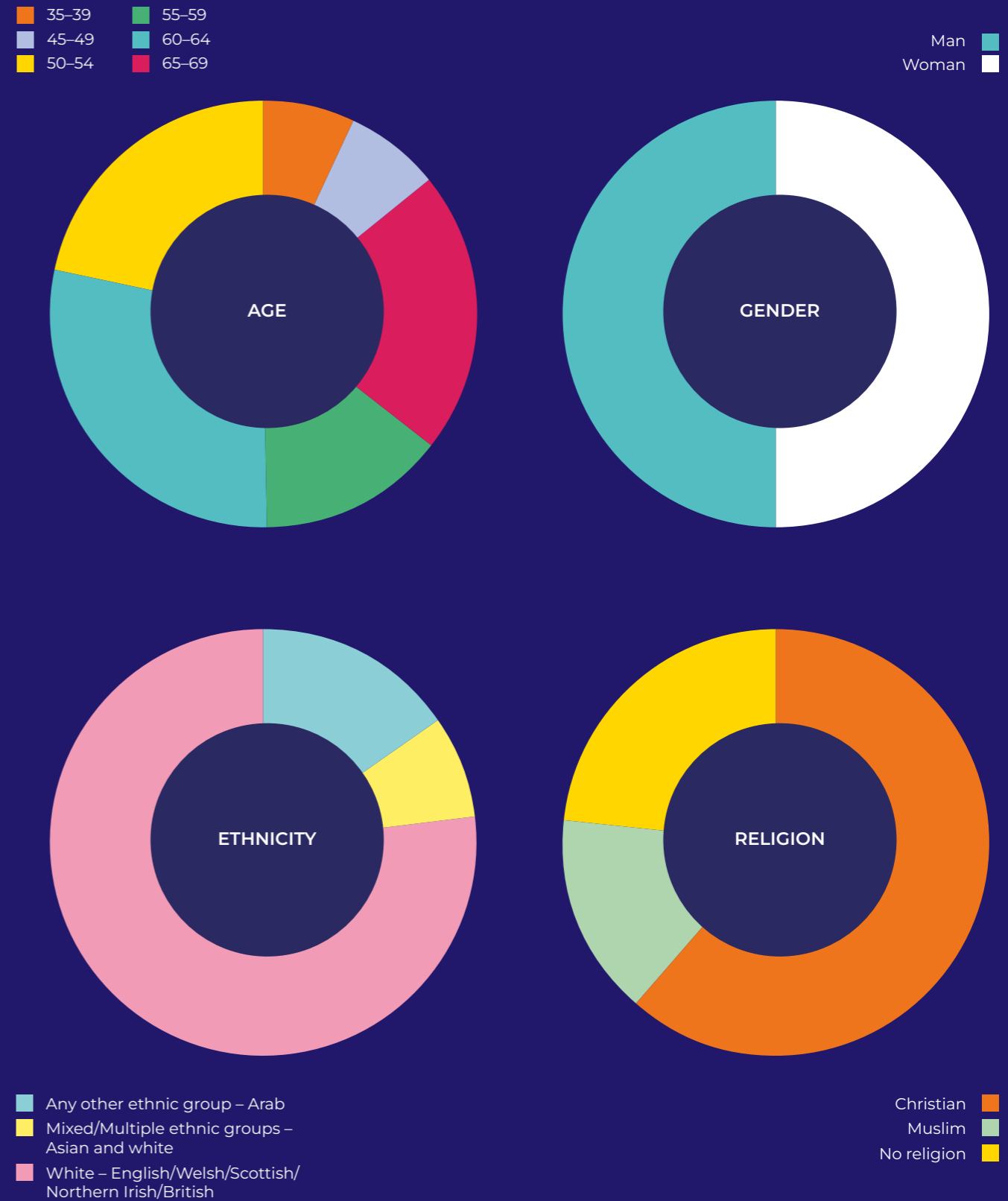
The Academy's Trustee Board is also committed to forming a Board that is fit for the future, defined as a body that represents the full breadth and diversity of engineering excellence, as well as the skills and experiences needed to provide effective leadership for the Academy. To help achieve this, one of the main responsibilities of the Academy's Nominations Committee is to actively seek and encourage people from different groups to stand for election. In September 2023, we also co-opted a member of the Awardee Excellence Community as our first non-Fellow Trustee. Dr Enass Abo-Hamed became an Enterprise Fellow in 2017 and has since engaged with the Academy through the This is Engineering campaign and continues to support enterprise activities, especially relating to sustainability. She is an advocate for engineering and social entrepreneurship.

The Board is guided by the values of the Academy to create a culture in which everyone can thrive and diverse perspectives enrich its collective performance.

In support of this commitment, the Trustee Board publishes its own diversity data (see opposite) 🏠

50%

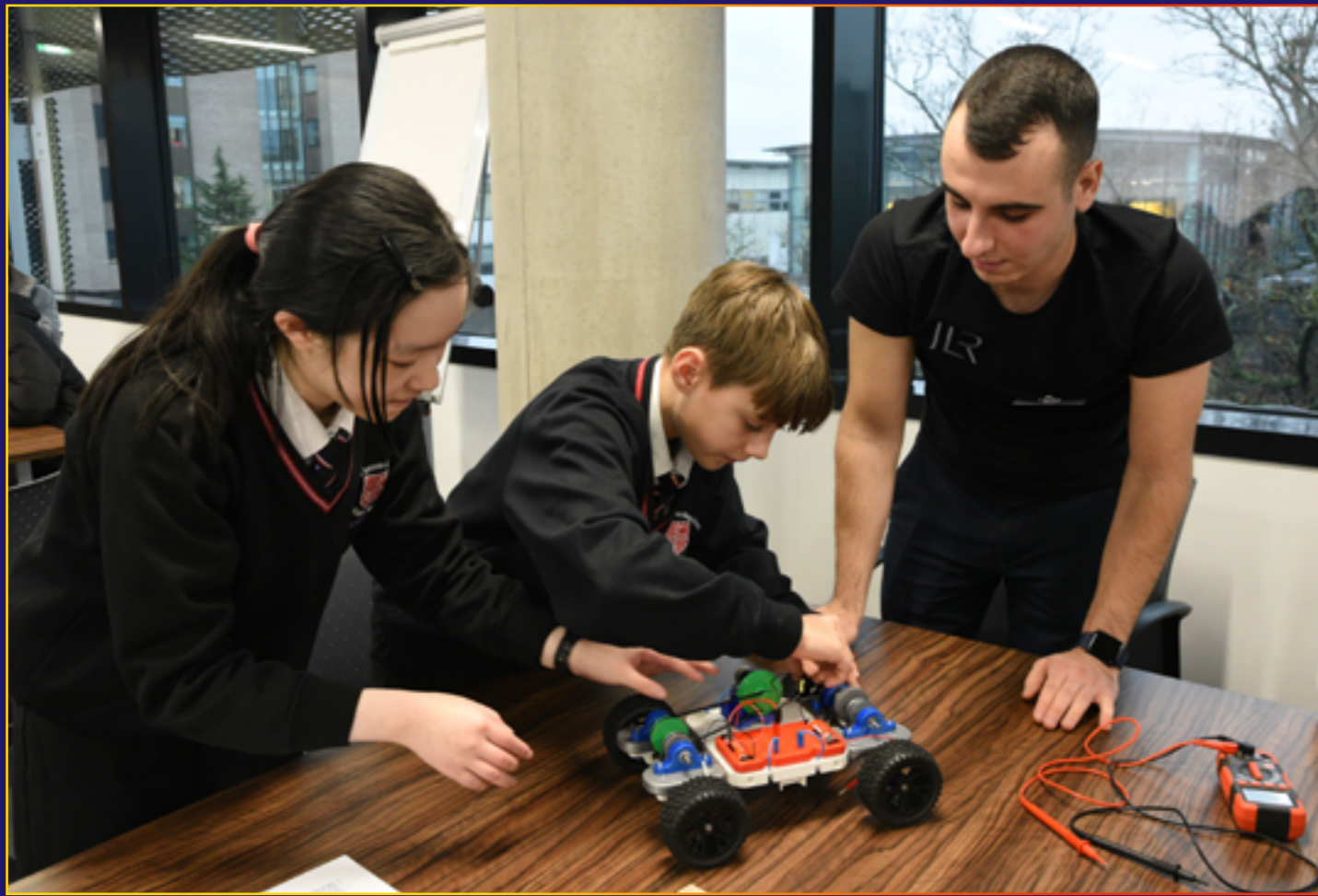
Our Fellows elected in 2023 reflect the Academy's ongoing Fellowship Fit for the Future initiative, meeting its aim of electing 50% from underrepresented groups.



The figures for age and gender represent all members of the Trustee Board. The figures for ethnicity and religion represent Trustee Board

members who submitted their diversity data. Of those who submitted data, all respondents declared that they had no disability when asked

and over 90% respondents stated that they were heterosexual when asked.



Future plans

As set out in our five-year strategy, the Academy's overarching goal is to harness the power of engineering to build a sustainable society and an inclusive economy that works for everyone.

In keeping with our values, many of these goals will be delivered through collaboration with key partners across the UK and around the world and will deliver against our four impacts:

- ◆ Faster progress towards net zero and a sustainable world.
- ◆ Engineering and technology better harnessed to address global and societal challenges.
- ◆ More balanced and inclusive economic opportunity across the UK.
- ◆ UK more competitive and productive.

We are on track to deliver on our commitments set out in the strategy. In 2024/25 we will continue our impact with the activities set out on the following pages.

Above: students take part in hands-on activities at the event to celebrate three years of the Lord Bhattacharyya Engineering Education Programme at WMC, University of Warwick.



Talent and diversity

In 2024/25, we will **support talented researchers, innovators and entrepreneurs** by:

- delivering the Green Future Fellowships funded by the Department for Science, Innovation and Technology through a £150 million novel funding model
- holding our second Awardee Excellence Community event and enhancing the connections of all our talented awardees and building their links to the whole Academy through the community
- helping highly talented engineering and technology researchers through our research programmes to pursue their vision, build their capabilities and produce research outputs with high potential for commercialisation and societal benefit
- continuing to support the progression of highly talented engineers through our higher education programmes
- offering support for enhancing the skills and connections of engineering and technology entrepreneurs through our Enterprise Hub, Leaders in Innovation Fellowships (LIF) programme and Africa Prize for Engineering Innovation
- building the capacity of organisations in emerging economies to support talented engineers, primarily through facilitating global partnerships, including through our Higher Education Partnerships in Sub-Saharan Africa (HEP SSA) and Engineering X programmes
- reviewing applications while meeting all quality and timeliness standards through our Global Talent Visa endorsement programme.

In 2024/25, we will **deliver more diverse skills and inclusive cultures** in engineering research and business by:

- supporting internal diversity and inclusion activity across all Academy teams with a single coherent action plan
- supporting development of progressive leadership across the engineering community, including through our new Culture+ platform for startups, scaleups and SMEs
- promoting engineering to all individuals and supporting their progression into engineering, particularly through our bursary programmes supporting those from underrepresented backgrounds and our regional education programmes
- increasing transition rates of engineering students from Black, Asian and minority ethnic backgrounds and low socio-economic backgrounds through our Graduate Engineering Engagement Programme
- developing the This is Engineering: School Engagement Programme, which will be smaller in scale, operate within the Regional Talent Engine areas, and specifically target schools and colleges in areas of low social mobility. Our education policy activity will increase through the NEPC.

All these activities will help us make progress towards our outcome of a **world-leading, truly inclusive and influential engineering workforce**.



Innovation

In 2024/25, we will **deliver engineering and technology research outputs with high potential for commercialisation and social benefit** by:

- continuing to deliver high-quality, long-term partnerships between industry and academia through our industrial partnership research programmes
- continuing to support 10-year programmes to advance novel technologies of high societal and economic benefit to the UK through our Chairs in Emerging Technologies
- holding Frontiers symposia to bring together researchers and innovators from around the world to build their networks and supporting seed grants for new collaborations as well as continuing projects
- exploring further partnerships with government national security and resilience organisations to support applied research programmes focusing on the UK population's safety and prosperity.

In 2024/25, we will **deliver more innovative, resilient and investment-ready engineering businesses** by:

- delivering a new all-island programme of work across the island of Ireland in line with our Memorandum of Understanding with the Irish National Academy



Policy and engagement

In 2024/25, we will **harness the insights of engineers across the Fellowship and broader engineering community to deliver engagement, capacity building and policy advice with real-world impact** by:

- ensuring that policymakers are equipped to make more effective policies, including on net zero, health and resilience, and digital infrastructures

- rolling out two new Enterprise Hubs in Newcastle and Liverpool
- publishing an engineering and technology focused economic and business case for diversity and inclusion
- building our position as leading experts in the UK and internationally for engineering and tech entrepreneurs, innovators and policymakers looking to support innovative businesses encouraging a sustainable society and an inclusive economy, through partnership between the Hub and our innovation policy work
- continuing to promote engineering enterprise in emerging economies as a critical means of addressing Sustainable Development Goals through the Africa Prize for Engineering Innovation and the LIF programme.

All these activities will help us **support more innovative engineering solutions for a more sustainable and resilient future, engineering jobs that make the UK more productive, secure, healthier, safer and more competitive, and greater investment into UK innovation.**

- positioning the Academy and profession as a thought leader and convener at the centre of delivering a more competitive, productive and inclusive UK economy, and an influential voice in the debate about securing UK Strategic Advantage through science and technology

- supporting engineers' engagement with the public on how innovation can contribute to their lives, through our Technology Pathways and Meaningful Innovation programme
- providing necessary engineering leadership around complex systemic global challenges through Engineering X, to improve health, quality of life and sustainability, particularly in low-income countries
- bringing ideas, expertise, data, and challenge from relationships built through our international programme partnerships together with the work of the NEPC, to address the need for a global presence able to bring engineering expertise to bear on shared international challenges
- delivering the government-commissioned independent review of the UK's quantum infrastructure needs
- delivering Engineers 2030, setting out agreed direction for engineering education including technical, digital and systems thinking with global responsibility outlook
- implementing a new two-year project through Engineering X to develop regional

Enablers

In 2024/25 the Academy will achieve its goals by:

- delivering a programme of awardee engagement
- strengthening Fellowship engagement, including technical briefings, regional engagement opportunities and ongoing development of the Fellows area of the website
- developing an impact framework that provides evidence of impact and underpins decision-making and prioritisation
- developing our culture, systems and processes to attract, retain and enable our people to contribute and thrive in meeting the Academy's objectives
- implementing the Digital Strategy, ensuring that critical digital platforms and central organisational processes are fit for purpose, widely adopted and supported by digital solutions
- developing culture, systems and processes to assure compliance, manage risk and continuously improve, including through the new internal audit programme
- developing new unrestricted revenue sources and increasing revenue from existing trading activities
- securing significant support for the Prince Philip Fund
- increasing long-term sustainable funding streams by growing the number of funders and the number of multi-year gifts as part of the development campaign.

roadmaps and city pilots funded by the UNEP Climate and Clean Air Coalition and delivering 18 ongoing global grants

- publishing NEPC and Enterprise Hub manifestos and support the profession in strategic general election influence and engagement.

In 2024/25, we will **ensure engineers engage with the public on how innovation can contribute to and enhance their lives** by:

- broadening public perceptions of engineering through This is Engineering, and the continued development of the new champions community
- amplifying engineering's contribution to sustainability through a revived Engineering Zero campaign.

All these activities will help us make progress towards our outcomes of **policymakers equipped to make more effective policies, including on net zero, and greater recognition of the value of engineering.**

FINANCIAL REVIEW

Group results for the year

The Academy has produced group accounts for the year, having consolidated its accounts with those of its two subsidiaries: the Queen Elizabeth Prize for Engineering Foundation and RAE Trading Limited. The annual report, incorporating the financial statements for the year ended 31 March 2024, has been prepared in accordance with the Academy's Royal Charter, and in compliance with Accounting and Reporting by Charities: Statement of Recommended Practice 2019, applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102) (effective 1 January 2019) – (Charities SORP (FRS102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102). The Academy meets the definition of public benefit entity under FRS102. These financial statements are prepared under FRS102.

Group income for the year was £208.2 million (2022/23 £57.1 million). The sharp increase in funding was due to the £150 million funding for the Green Future Fellowships programme. During the year, income from grants and other contracts totalled £204.7 million (2022/23 £52.9 million). Donations totalled £0.7 million (2022/23 £2.0 million), of which £0.2 million was to the Queen Elizabeth Prize for Engineering Foundation. Other major sources of income during the year were: investments, subscriptions, events, and facilities hire income at a total of £2.8 million compared to £2.2 million in the previous year.

Group expenditure on charitable activities was £58.4 million (2022/23 £55.9 million): 97% of total expenditure. Of this total, £51.9 million represented charitable activities and grants paid under various programmes and £6.6 million represented the costs of operating those programmes.

The cost of generating funds across the group was £1.7 million: 3% of total expenditure. The cost of generating funds consists of fees paid to investment managers, facilities hire and catering, and the staff costs and expenses associated with fundraising. The Academy is continuing with major fundraising activity aimed at obtaining funds for the enhancement and expansion of the Academy's programmes to support talent and diversity, innovation, and policy and engagement, as well as central infrastructure.

Group asset value

The carrying value of the group's net assets was £220.1 million (2022/23 £66.8 million). Investments were valued at £204.2 million, with the Academy holding £178.8 million and the Queen Elizabeth Prize for Engineering Foundation holding £25.4 million. Tangible fixed assets valued at £25.3 million included the £10.8 million value of the Carlton House Terrace lease and the £12.3 million of leasehold improvements to Prince Philip House. The main liability was a bank loan of £11.5 million, which funded the extension of the Academy's property lease secured in 2017. The loan also funded part of the lower ground floor extension and settled the previous loan with NatWest.

Group fixed assets

Capital expenditure during the year amounted to £0.8 million, which was on computer systems and equipment and office fixtures and fittings.

Reserves policy

The Academy's intention is to maintain sufficient reserves to ensure financial resilience and sustainability, including protection against risks identified in the risk register. The reserves policy sets out the target reserves level and the key principles by which the Academy will manage any excesses or deficits compared to the target. The aim is to strike the appropriate balance between ensuring a sustainable financial position and using funds to fulfil the charitable objectives of the Academy and deliver public benefit. The reserves policy is reviewed regularly.

Year ended 31 March	2024	2023
	£000	£000
Total funds as per group balance sheet	220,143	66,819
Exclude:		
Restricted funds	185,088	35,008
Unrestricted funds tied up in tangible fixed assets	25,327	25,487
Designated and special funds	4,595	3,880
Free Reserves	5,133	2,444

Free Reserves

The increase in Free Reserves is driven by increases in investments and their increase in value due to changes in market value. Free Reserves are available to be spent for any purpose that meets the Academy's charitable objectives. Free Reserves would cover a short-term emergency or longer-term structural change. The reserves policy states that the recommended range for Free Reserves is £3.7 million to £6.0 million. Whenever the Academy's Free Reserves fall below the recommended range, the intention is to build the level of Free Reserves to be within the recommended range within five years.

ROYAL ACADEMY OF ENGINEERING (PARENT CHARITY OF GROUP)

Results for the year

Total income for the year was £206.7 million (2022/23 £55.6 million). The Academy is grateful to the Department for Science, Innovation and Technology (DSIT) for providing the £150.0 million Green Future Fellowships funding and the government core grant to support activities aimed primarily at promoting engineering research in the UK. The core grant at £39.4 million (2022/23 £38.4 million) represented 19% of total group income.

Income from other grants and contracts increased by 5% to £15.3 million. Included in this amount were grants

received from DSIT of £5.0 million from the International Science Partnerships Fund and £3.2 million from the Global Challenges Research Fund.

Expenditure on charitable activities was £56.2 million compared to £54.1 million in the previous year. An analysis based upon the principal objective of each activity shows that, of the total charitable expenditure: 75% was on innovation; 11% on policy and engagement; and 14% on talent and diversity. Employment costs increased from the previous year by 26% to £12.7 million due to additional resources required to deliver the increased scale of programmes.

Investments

The value of the Academy's investment portfolio increased over the year by £153.3 million to £178.8 million after the addition of Green Future Fellowships funding. Realised and unrealised investment gains during the year were £3.2 million. 10% of the Academy's investment portfolio is held in global equities and 90% is held in fixed interest bonds, money market funds, and asset-backed and alternative investments. Income to the Academy from dividends increased by 77% during the year to £670,000.

The Academy's investments are held in a managed investment fund and index funds. The Academy's investments overperformed versus the composite benchmark by 1%. The composite benchmark for the portfolio was set as 70% FTSE All World and 30% cash plus 2% (which is representative of the balance of the portfolio for majority of the 2023/24 financial year with the £150 million Green Future Fellowships funding being received in March 2024).

Investment policy

The Academy has adopted the following sustainable principles within its investment policy:

1. The Academy's assets should be invested in line with its aims.
2. The Academy aims for the best possible financial return from its investments. However, the Academy understands the importance of sustainable investing practices that are compliant with the United Nations Principles of Responsible Investments (UN PRI). The Trustees believe that the two considerations are not contradictory and that sustainable investing principles should not lead to lower return expectations over the long term.
3. The Academy's charitable object is the pursuit, encouragement and maintenance of excellence in the whole field of engineering to useful purpose. The Trustees conclude that a blanket exclusionary policy on certain sectors, as followed by many institutional investors, is not appropriate for the Academy.
4. The Academy requires its fund managers to pay appropriate regard to relevant corporate governance, social, ethical, and environmental considerations in the selection, retention and realisation of all fund investments. The Academy requires all investment managers to be signatories to UN PRI.
5. These principles will be reviewed on a regular basis to ensure that they are in-sync with the broader ethical and sustainability policies of the Academy.

The Trustees' general powers of investment derive from and are restricted by the Trustee Act 2000. These powers are not restricted by the Academy's Royal Charter, which states that "the Board may invest any monies of the Academy not immediately required for the purposes of the Academy". The investment objective is to generate a total return of inflation (Consumer Price Index) plus 4% per annum over the long term, after expenses. This will allow the Academy to maintain the real value of the assets, while funding annual expenditure at the level generally not exceeding 4% per annum.

The funds have been invested in a diversified portfolio of assets. The core of the portfolio has been invested in the income and return generating assets. Asset classes include domestic and international equities, fixed income instruments, property, commodities, cash, and any other assets deemed suitable for the Academy.

Designated Funds

A strategic development fund of £1.5 million is available to deliver impactful charitable activities over the next five years and/or strengthen the Academy for the longer term and fund non-recurring costs of major projects without impacting annual operating budgets.

Capital building fund

Within designated funds there is a fund of £2.3 million to cover major capital improvements to Prince Philip House.

Prince Philip Fund

Within designated funds there is a fund of £0.8 million to secure the long-term future of the Academy, including a permanent home at Prince Philip House, honouring the legacy of our late founding Senior Fellow, HRH The Duke of Edinburgh.

The specific uses and needs of the restricted and designated funds held by the Academy are detailed separately in the notes to the accounts referred to above. The Academy's reserves are available and adequate to fulfil the current obligations of the Academy.

Risk management and appetite

The Trustees have agreed a risk appetite statement and associated risk management policy. The Audit and Risk Committee reviews the risk register four times a year. The Chair of the Audit and Risk Committee provides updates to the Trustee Board. Risk management is supported by the work of the Audit and Risk Committee as well as various operating committees. The Academy's overall approach to risk is illustrated by the following table:

Risk appetite table

Risk area	Very low	Low	Some	Acceptance
Health, Safety and Security	•			
Safeguarding	•			
Compliance and Governance	•			
Data Protection and Cyber Security	•			
Reputation for credibility, integrity, and quality	•			
Reputation for thought leadership, progressive thinking, and campaigning		•		
IT Infrastructure and Development			•	
People and Culture		•		
Environment and Sustainability			•	
Financial		•		
Programme Delivery		•		
Impact		•		
Programme Innovation				•

See table below for description of risk appetite classification.

Risk appetite classification

Classification	Description
Very low	As low as reasonably possible.
Low	Preference for safe options that have a low degree of residual risk.
Some	Willing to consider all potential options and choose one that is most likely to result in successful delivery, despite the potential for some degree of risk.
Acceptance	Eager to innovate and to choose options offering potentially higher reward, despite greater inherent risk.

The most significant risks currently faced by the Academy and managing actions are shown in the table below.

Academy funding: non-government	<ul style="list-style-type: none"> A fundraising cultivation and stewardship programme is in place. Financial strategy in place which sets out purpose of and appropriate levels of reserves.
Risk of insufficient funding raised from non-government sources	<ul style="list-style-type: none"> Development Advisory Board will transition to a Fundraising Committee this year. RAE Trading with AV upgrade completed. Business Development Group meeting regularly to discuss commercial opportunities. Investment strategy in place with new investment fund manager.
Staff resources and capability	<ul style="list-style-type: none"> External salary benchmarking was carried out for RemCo in November 2023.
Risk of poor staff retention and inability to hire high-quality staff	<ul style="list-style-type: none"> Utilising different resourcing models such as freelancers, secondments, and contractors. Regular staff surveys to track engagement and highlight issues. New People Strategy being implemented. New Talent Management approach launched.
Cyber attack	<ul style="list-style-type: none"> Up-to-date technology including third-party daily monitoring, malware protection, regular patching, and email and web filtering.
Risk of serious cyber attacks that impact business continuity	<ul style="list-style-type: none"> Encryption on laptops, two-factor authentication for core Academy services, and enforced use of Academy devices in place. Annual penetration testing. Specific mitigation solution in place against distributed denial of service attacks. Two business continuity exercises complete.
National security risks	<ul style="list-style-type: none"> Internal National Security Risks Group formed and meet regularly.
Risk of unethical or security-compromising partner activity	<ul style="list-style-type: none"> Ongoing dialogue with government stakeholders on evolving risks. New Academy National-Security Related Risk policy and procedures

QUEEN ELIZABETH PRIZE FOR ENGINEERING FOUNDATION

The Queen Elizabeth Prize for Engineering Foundation is governed by the Articles of Association for a private company limited by guarantee. These were agreed by Queen Elizabeth Prize for Engineering Foundation Trustees on 21 May 2012 and amended on 4 March 2013. The sole member of the charitable company is the Royal Academy of Engineering.

The Queen Elizabeth Prize for Engineering Foundation Trustee Board consists of at least two (and no more than six) nominated Trustees, who are appointed by ordinary resolution or by a decision of the Queen Elizabeth Prize for Engineering Foundation Trustees and one Ex-Officio Trustee who is holder of the office of the President of the Royal Academy of Engineering. All material decisions in relation to the Foundation are taken by Queen Elizabeth Prize for Engineering Foundation Trustees.

Royal Academy of Engineering Trustees meet periodically with Queen Elizabeth Prize for Engineering Foundation trustees. The Queen Elizabeth Prize for Engineering Foundation formally report to the Royal Academy of Engineering Trustee Board once per annum.

Results for the year

Total income for the year was £0.8 million (2022/23 £0.8 million). Expenditure on charitable activities was £2.6 million compared to £2.1 million the previous year. The Queen Elizabeth Prize for Engineering is awarded on an annual cycle. The Foundation pays a management fee to the Academy for services, which includes staff employed and office space. A CEO is shared across the Royal Academy of Engineering and Queen Elizabeth Prize for Engineering Foundation group entities.

Investments

The value of the Queen Elizabeth Prize for Engineering Foundation investment portfolio increased by £0.8 million (2023: £1.6 million decrease). Investments were valued at £25.4 million (2023: £24.6 million).

Investment policy

The overall investment objectives are to create both income and capital growth such that the real capital value of the portfolio is maintained over the long term, thus allowing the prize to be awarded in perpetuity. The portfolio is managed on a total return basis with a medium risk profile. The Queen Elizabeth Prize for Engineering Foundation ensures that portfolio performance is measured against a customised benchmark. The investments are maintained with a long-term investment time horizon of over 10 years.

The Queen Elizabeth Prize for Engineering Foundation does not invest in organisations that conflict with the charity's purpose. The Trustees do not wish to invest in companies or funds that derive their income from the sale or manufacture of tobacco products. No initial investment to exceed 10% of the value of the fund. Bonds held will "BBB" or better classification.

Reserves policy

Queen Elizabeth Prize for Engineering Foundation Trustees consider the level of the Foundation's reserves as part of their risk assessment review process. These reserves are restricted within the group balance sheet.

RAE TRADING LIMITED

Results for the year

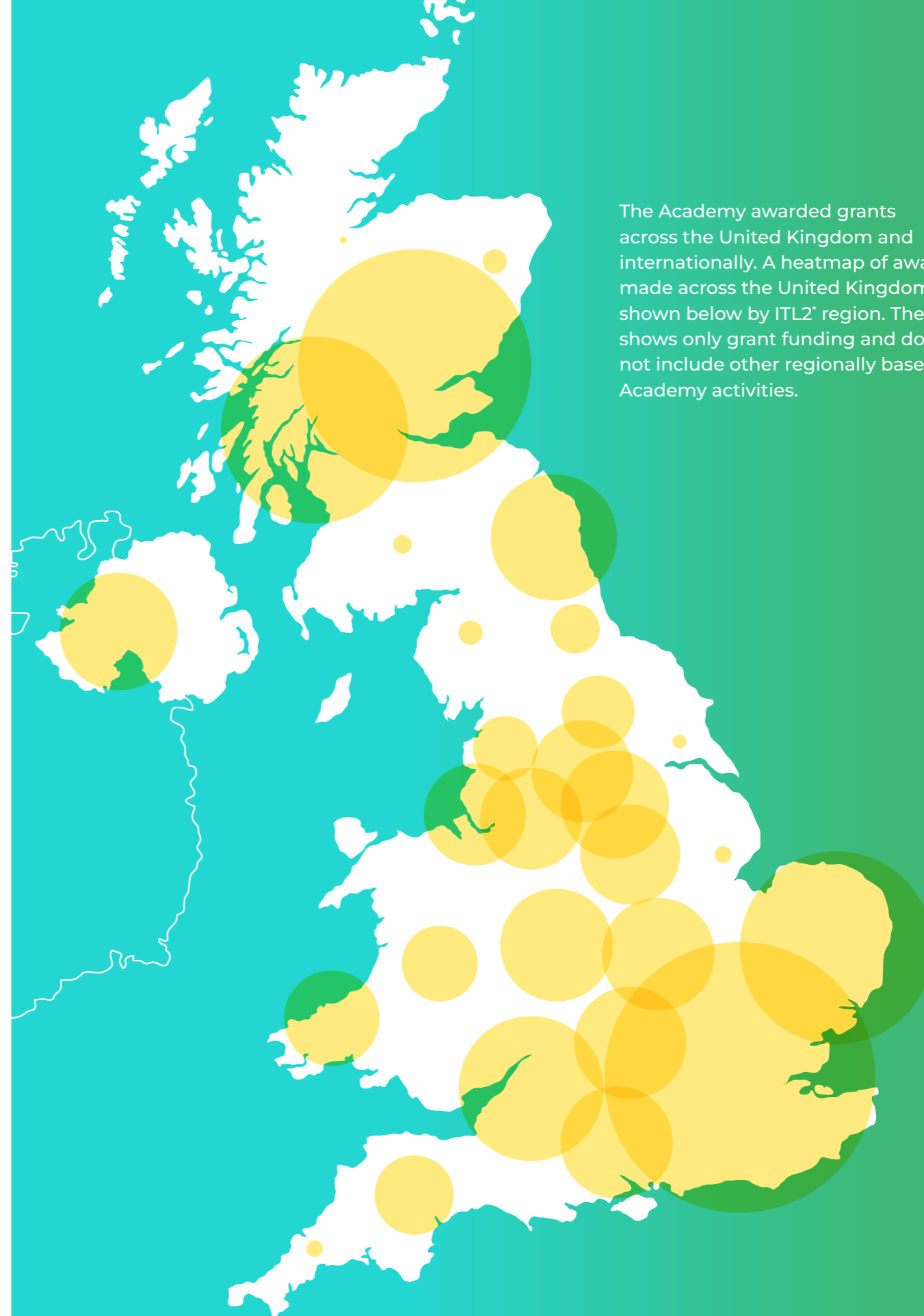
The commercial activity undertaken by the company during the year was the provision of rooms and catering services within Prince Philip House, primarily to corporate customers. Catering services are also provided to the Academy at cost. Revenue for the year was £1.2 million (2022/23 £1.0 million). Operating expenditure, including the cost of providing a service to the Academy, was £0.8 million (2022/23 £0.7 million). The net profit for the year was £238,000 compared to £136,000 in the previous year.

There are no reserves held by RAE Trading Limited as all profit arising is donated to the Academy through a qualifying charitable donation.

Report of the Trustee Board

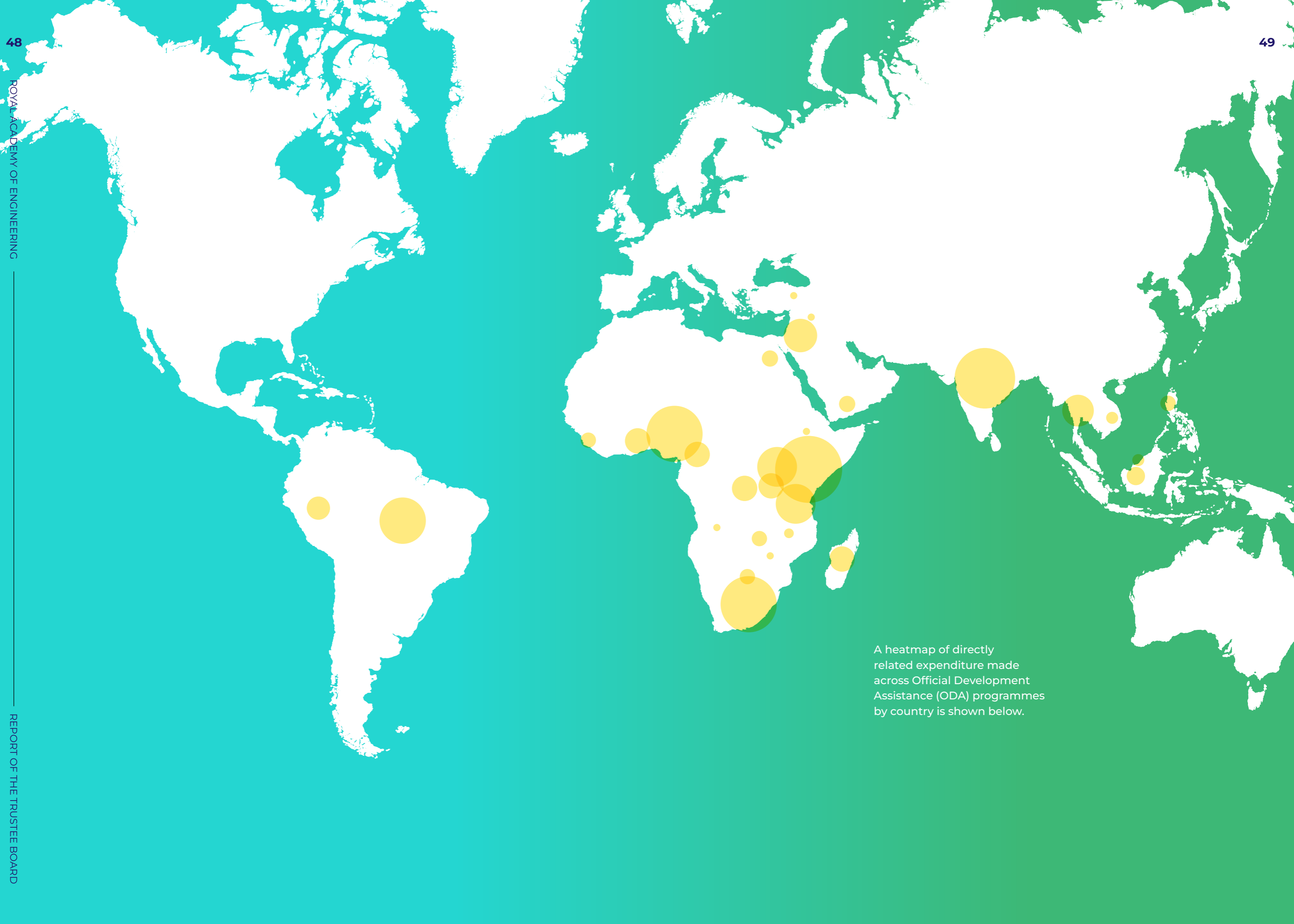
The Academy made over 1,000 grants and awards to organisations and individuals in 2023/24 totalling £31.5 million. The first 25 organisations, in order of total amount of funds paid to recipients, are listed below.

Recipients of Academy grants	Innovation £000	Policy and engagement £000	Talent and diversity £000	Total £000
Imperial College London	2,642	–	24	2,666
University of Cambridge	1,866	18	8	1,892
University College London	1,721	–	14	1,735
Heriot-Watt University	1,556	18	20	1,594
University of Edinburgh	1,363	–	6	1,369
University of Glasgow	1,348	–	17	1,365
University of Oxford	1,289	–	15	1,304
University of Bristol	1,071	–	40	1,111
University of Manchester	1,029	–	15	1,044
University of Southampton	940	–	7	947
University of Newcastle	789	–	18	807
University of Strathclyde	716	15	16	747
King's College London	689	–	17	706
University of Nottingham	636	–	9	645
University of Liverpool	576	–	8	584
University of Sheffield	540	14	9	563
Queen's University Belfast	412	–	10	422
Loughborough University	366	–	49	415
University of Leeds	386	18	10	414
University of Exeter	357	–	5	362
Cranfield University	271	18	35	324
University of South Wales	293	–	10	303
Queen Mary, University of London	233	18	10	261
University of Surrey	250	–	10	260
University of York	246	–	8	254
Total	21,585	119	390	22,094



The Academy awarded grants across the United Kingdom and internationally. A heatmap of awards made across the United Kingdom is shown below by ITL2* region. The map shows only grant funding and does not include other regionally based Academy activities.

* International Territorial Level or ITL is a geocode standard for referencing the subdivisions of countries for statistical purposes.



A heatmap of directly related expenditure made across Official Development Assistance (ODA) programmes by country is shown below.

Royal Academy of Engineering (parent charity of group) structure, governance and management

Election to the Trustee Board

Trustee Board members are elected for a term of three years with the exception of the President who is elected for a term of up to five years. With the exception of the President, Trustees are eligible for re-election for a further three-year term. The Trustee election is by a ballot of Fellows each year. The Nominations Committee helps to ensure that there is an appropriate candidate slate for election to the Trustee Board and the associated governance roles.

Induction and training of Trustee Board members

Following election, Trustees are provided with an information pack comprising the Academy's Charter, Statutes and Regulations, a Charity Commission publication on the responsibilities of charity trustees and the Academy strategy. Trustee Board members receive a full induction briefing from senior staff and the Academy's legal advisor and are encouraged to attend recommended external training courses for charity trustees.

Charity Governance Code

The Trustees have previously undertaken a review of current Academy practice mapped against the recommended practice of the Charity Governance Code. The vast majority of Academy practices correspond with the recommended practices set out in the Code.

Code of Conduct

A Code of Conduct is in place to cover the conduct and ethical behaviour expected of Fellows of the Royal Academy of Engineering. Fellows are ambassadors for the Academy and should therefore conduct themselves in a manner that supports the Academy's aims and that upholds and enhances the reputation of the Academy and its Fellows. Fellows are expected to follow the Nolan principles of selflessness, integrity, objectivity, accountability, openness, honesty, and leadership.

Fellows who are working for or on behalf of the Academy must act in accordance with Academy policies on conduct and behaviour covering items such as conflicts of interest, equality, diversity and inclusion, anti-bullying and harassment, and anti-bribery. The Conduct Committee, chaired by the Vice-President for Committee Coordination, oversees the Code and its implementation.

INTERNAL CONTROL

Finance Committee

The Finance Committee is mandated by and reports to the Trustee Board on the following issues:

- Setting a budget prior to each financial year for approval by the Trustee Board.
- Appointing and monitoring the performance of independent investment advisers.
- Approving authorised signatories and setting limits on delegated financial authorities.
- Monitoring financial performance against budget.
- Reviewing the reserves policy annually.
- Ensuring that accounting principles of UK GAAP are followed.

Detailed management accounts are prepared monthly within 10 working days of the month end and submitted six times a year to the Finance Committee. Summarised accounts are submitted at each Trustee Board meeting.

The Finance Committee meets at least six times during each financial year. Included in the items considered by the Committee during the year were the Academy's investment strategy in the context of the £150 million receipt of Green Future Fellowships funding and the performance of RAE Trading Limited.

Audit and Risk Committee

The Audit and Risk Committee is mandated by and reports to the Trustee Board on the following issues:

- The effectiveness and development of the Academy's risk management policy and processes and compliance with these.
- The review of the Academy's main risks and their management, particularly strategic risks and control processes concerns, and assessment of the level of assurance on the controls in place.
- The audit and review of the Academy's activities, assessing compliance with and effectiveness of controls, policies and processes.
- The review of significant projects, programmes and other activities to ensure that suitable contracts are in place and that the financial, operational and risk management is appropriate.
- Recommendations on the appointment, reappointment and removal of the external auditors.
- The review of the external auditor's findings and in particular any problems, reservations and observations arising during the audit.

The Audit and Risk Committee meets at least four times during each financial year. Included in the items considered by the Committee during the year were the review of the external audit findings, a review of 30 Royal Academy of Engineering digital programmes, a review of the policy programme and a data security review.

Fundraising statement

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although the Academy does not undertake widespread fundraising from the general public, the legislation defines fundraising as "soliciting or otherwise procuring money or other

property for charitable purposes". Such amounts receivable are presented in the Academy's accounts as 'voluntary income' and include legacies and grants. The day-to-day management of all income generation is delegated to the executive leadership team, who are accountable to the Trustees.

The charity adheres to the Chartered Institute of Fundraising Code of Fundraising Practice, which outlines standards expected of all charitable fundraising organisations in the UK.

The Academy has received no complaints in relation to fundraising activities. Its terms of employment require staff to behave reasonably at all times.

Grant-making policy

The grant and award programmes are run by committees or steering groups of Fellows of the Academy, and where appropriate other experts, chosen based on their experience and expertise. Fellows of the Academy offer their time freely; no remuneration was paid in the year beyond the reimbursement of reasonable expenses.

There is a policy of strict impartiality and no Fellow may participate in a group/award decision if there is a conflict of interest.

Grant awardees are issued with agreements and progress is monitored and recorded utilising a grant management system.

Remuneration policy

The Academy's policy is to pay staff salaries at the market mid-point. Salaries are reviewed in alternate years following a market benchmarking exercise conducted by an independent consultancy. The last independent review was undertaken during 2023 to inform the salary review implemented with effect from 1 April 2024.

The remuneration of the Chief Executive, Chief Operating Officer, Executive Director Programmes, and directors is set annually by the Remuneration Committee. In setting appropriate levels of senior management pay, the Remuneration Committee considered the skills, experience and competencies required for each role, and the remuneration level for those roles in sectors where suitable candidates would be found.

Executive leadership team

Day-to-day management of the Academy is the responsibility of the Chief Executive who, with the Chief Operating Officer, Executive Director Programmes and two directors, comprise the executive leadership team listed below, which meets regularly. Strategy is set by the Trustee Board, and implemented by the executive leadership team, with oversight provided by Academy committees.

The executive leadership team who served during the period of the report are as follows:

CHIEF EXECUTIVE

Dr Hayaatun Sillem CBE

CHIEF OPERATING OFFICER

Chris Boyle

EXECUTIVE DIRECTOR, PROGRAMMES

Dr Andrew Clark

DIRECTOR, POLICY AND INTERNATIONAL

Dr Nick Starkey

DIRECTOR, COMMUNICATIONS AND ENGAGEMENT

Joanna Trigg

Trustees' responsibilities

The Trustees are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Charity law requires the Trustees to prepare financial statements for each financial year in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law). Under charity law the Trustees must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the group and charity and of the incoming resources and application of resources, including the income and expenditure, of the group for that period.

In preparing these financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently
- make judgements and accounting estimates that are reasonable and prudent
- state whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements

- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

The Trustees are responsible for keeping adequate accounting records that are sufficient to show and explain the charity's transactions and disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities Act 2011. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Financial statements are published on the charity's website in accordance with legislation in the United Kingdom governing the preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the charity's website is the responsibility of the trustees. The trustees' responsibility also extends to the ongoing integrity of the financial statements contained therein.

Signed on behalf of the Trustee Board on 6 August 2024.

Professor Sir Jim McDonald
GBE FREng FRSE
PRESIDENT

David Eyton CBE FREng
CHAIR OF THE FINANCE COMMITTEE

Independent auditor's report to the trustees of the Royal Academy of Engineering

OPINION ON THE FINANCIAL STATEMENTS

In our opinion, the financial statements:

- give a true and fair view of the state of the Group's and of the Parent Charity's affairs as at 31 March 2024 and of the Group's incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

We have audited the financial statements of the Royal Academy of Engineers ("the Parent Charity") and its subsidiaries ("the Group") for the year ended 31 March 2024 which comprise the consolidated statement of financial activities, the balance sheets, the consolidated statement of cash flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland* (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remain independent of the Group and the Parent Charity in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

CONCLUSIONS RELATED TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group and the Parent Charity's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustees with respect to going concern are described in the relevant sections of this report.

OPINION ON OTHER MATTER

In our opinion, in all material respects, the core grant payments received from the Department for Science, Innovation and Technology ("DSIT") have been applied for the purposes set out in the grant letters and in accordance with the terms and conditions of the grant agreements.

OTHER INFORMATION

The Trustees are responsible for the other information. The other information comprises the information included in the Annual report and accounts, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

We have nothing to report in respect of the following matters in relation to which the Charities (Accounts and Reports) Regulations 2008 requires us to report to you if, in our opinion;

- the information given in the Trustees' Report for the financial year for which the financial statements are prepared is inconsistent in any material respect with the financial statements; or
- adequate accounting records have not been kept by the Parent Charity; or
- the Parent Charity financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEES

As explained more fully in the Trustees' responsibilities, the Trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the Group's and the Parent Charity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Group or the parent Charity or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under section 151 of the Charities Act 2011 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below:

Non-compliance with laws and regulations

Based on:

- Our understanding of the Group and the sector in which it operates;
- Discussion with management, those charged with governance and the Audit and Risk Committee; and
- Obtaining and understanding of the Group's policies and procedures regarding compliance with laws and regulations,

we considered the significant laws and regulations to be the relevant Charities Acts and applicable accounting framework.

The Group is also subject to laws and regulations where the consequence of non-compliance could have a material effect on the amount or disclosures in the financial statements, for example through the imposition of fines or litigations. We identified such laws and regulations to be relevant tax legislation, employment law, data protection and fundraising regulations. We also considered the risks of non-compliance with other requirements imposed by the Charity Commission and we considered the extent to which non-compliance might have a material effect on the Group financial statements.

Our procedures in respect of the above included:

- Reviews of minutes of meetings of the Trustee Board, the Audit and Risk Committee and the Finance Committee for any instances of non-compliance with laws and regulations;
- Reviews of any correspondence with regulatory and tax authorities for any instances of non-compliance with laws and regulations; and
- Reviews of financial statement disclosures and agreeing to supporting documentation.

Fraud

We assessed the susceptibility of the financial statements to material misstatement, including fraud. Our risk assessment procedures included:

- Enquiries of management and the Audit and Risk Committee regarding any known or suspected instances of fraud;
- Obtaining an understanding of the Group's policies and procedures relating to:
 - Detecting and responding to the risks of fraud; and
 - Internal controls established to mitigate risks related to fraud.
- Reviews of minutes of meetings of the Trustees Board, Audit and Risk Committee and the Finance Committee for any known or suspected instances of fraud;
- Discussion amongst the engagement team as to how and where fraud might occur in the financial statements; and
- Performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.

Based on our risk assessment, we considered the areas most susceptible to fraud to be management override of controls, completeness of grant income, grant income and expenditure matching and cut-off of conferencing income.

Our procedures in respect of the above included:

- Testing a sample of journal entries throughout the year, which met defined risk criteria, by agreeing to supporting documentation;
- Testing a sample of grant agreements to confirm entitlement to the income;
- Testing a sample of grant income by matching it to the validity of expenditure incurred; and
- Assessing significant estimates made by management for bias, including the useful economic life of fixed assets and allocation of costs.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's ("FRC's") website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charity's trustees, as a body, in accordance with Part 4 of the Charities (Accounts and Reports) Regulations 2008. Our audit work has been undertaken so that we might state to the Charity's trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charity and the Charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

BDO LLP, statutory auditor

London, UK
Date:

BDO LLP is eligible for appointment as auditor of the charity by virtue of its eligibility for appointment as auditor of a company under section 1212 of the Companies Act 2006.

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

Consolidated statement of financial activities

Year ended 31 March 2024	Notes	Unrestricted funds 2024		Restricted funds 2024		Total 31 March 2024	
		£000	£000	£000	£000	£000	£000
Income and endowments from:							
Donations and legacies	2	144	150,558	150,702	680	1,343	2,023
Charitable activities	3,4,5	–	54,697	54,697	–	52,934	52,934
Other trading activities	6a	1,475	–	1,475	1,147	–	1,147
Investments	6	596	685	1,281	352	668	1,020
Total income		2,215	205,940	208,155	2,179	54,945	57,124
Expenditure on:							
Raising funds		1,547	158	1,705	1,424	165	1,589
Charitable activities	7	329	58,111	58,440	1,271	54,653	55,924
Other	8	91	53	144	100	9	109
Total expenditure		1,967	58,322	60,289	2,796	54,827	57,622
Net gains/(losses) on investment	11	2,519	2,939	5,458	(1,899)	(1,448)	(3,347)
Net income/ (expenditure)		2,767	150,557	153,324	(2,515)	(1,330)	(3,845)
Transfer between funds	16	477	(477)	–	1,830	(1,830)	–
Net movement in funds		3,244	150,080	153,324	(685)	(3,160)	(3,845)
Fund balances brought forward 1 April		31,811	35,008	66,819	32,496	38,168	70,664
Fund balances carried forward 31 March	16, 17	35,055	185,088	220,143	31,811	35,008	66,819

All the above results are derived from continuing activities. There are no gains and losses other than those stated above.

The notes on pages 58 to 73 form part of these financial statements.

Balance sheets

At 31 March 2024	Notes	Group		Charity	
		2024	2023	2024	2023
		£000	£000	£000	£000
Tangible fixed assets	10	25,327	25,487	25,327	25,487
Investments	11	204,203	50,104	178,768	25,505
Total fixed assets		229,530	75,591	204,095	50,992
Current assets:					
Debtors	12	7,712	9,131	7,859	9,484
Stock	13	2	2	2	2
Short term deposits		359	247	175	62
Cash at bank		3,754	3,807	2,800	2,585
		11,827	13,187	10,836	12,134
Liabilities:					
Creditors (amounts falling due within one year)	14a	(9,714)	(10,459)	(8,650)	(9,662)
Net current assets:		2,113	2,728	2,186	2,472
Total assets less current liabilities		231,643	78,319	206,281	53,464
Creditors (amounts falling due beyond one year)	14c	(11,500)	(11,500)	(11,500)	(11,500)
Total net assets		220,143	66,819	194,781	41,964
The funds of the charity:					
Restricted income funds	16	185,088	35,008	159,825	10,374
Unrestricted income funds					
Designated Fund		4,595	3,880	3,880	3,724
General fund		30,460	27,931	31,076	27,865
Total unrestricted funds		35,055	31,811	34,956	31,589
Total charitable funds		220,143	66,819	194,781	41,964

The notes on pages 58 to 73 form part of these financial statements.

These financial statements were approved and authorised for issue by the President and Chair of the Finance Committee under delegated authority from the Trustee Board.

Signed of behalf of the Trustee Board on 6 August 2024.

Professor Sir Jim McDonald GBE FREng FRSE
President

David Eyton CBE FREng
Chair of the Finance Committee

Consolidated statement of cash flows

Year ended 31 March 2024	2024	2023
	£'000	£'000
Cash flows from operating activities:		
Net cash provided/(expended) by operating activities	148,199	(315)
Cash flows from investing activities:		
Dividends, interest and rents from investments	1,281	1,020
Purchase of property, plants and equipment	(781)	(1,548)
Proceeds from the sale of investments	36,422	5,995
Purchase of investments	(185,062)	(5,795)
Net cash expended by investing activities	(148,140)	(328)
Change in cash and cash equivalents in the reporting period	59	(643)
Cash and cash equivalents at 1 April	4,054	4,697
Cash and cash equivalents at 31 March	4,113	4,054

Reconciliation of net income/(expenditure) to net cash flow used in operating activities

Net income/(expenditure) for the reporting periods (as per the statement of financial activities)	153,324	(3,845)
Net (gains)/losses on investments	(5,458)	3,347
Adjustments for:		
Depreciation charges	939	690
Dividends, interest and rents from investments	(1,281)	(1,020)
Decrease in stocks	1	1
Decrease/(increase) in debtors	1,419	(980)
(Decrease)/increase in creditors	(745)	1,493
Net cash provided by operating activities	148,199	(315)

Analysis of cash and cash equivalents

Cash in hand	3,754	3,807
Notice deposits	359	247
Total cash and cash equivalents	4,113	4,054

Consolidated statement of cash flows (continued)

Analysis of changes in net debt	2023	Cash flows	2024
	£'000	£'000	£'000
Cash and cash equivalents			
Cash in hand	3,807	(53)	3,754
Notice deposits	247	112	359
	4,054	59	4,113
Borrowings			
Debt due within one year	-	-	-
Debt due after one year	(11,500)	-	(11,500)
	(11,500)	-	(11,500)
Total	(7,446)	59	(7,387)

The notes on pages 58 to 73 form part of these financial statements.

**FOR THE YEAR ENDED
31 MARCH 2024****Note 1 – Accounting policies****(a) Basis of preparation
of the accounts**

The annual report, incorporating the financial statements for the year ended 31 March 2024, has been prepared in accordance with the Academy's Royal Charter, and in compliance Accounting and Reporting by Charities: Statement of Recommended Practice 2019 applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102) – (Charities SORP (FRS102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102). The Academy meets the definition of public benefit entity under FRS102.

(b) Historical cost convention

The financial statements have been prepared under the historical cost convention, as modified for the inclusion of investment assets at market value.

(c) Consolidation

The financial statements consolidate the results of the Academy and its own wholly owned subsidiaries, RAE Trading Limited and the Queen Elizabeth Prize for Engineering Foundation, on a line-by-line basis. Transactions and balances between the Academy and its subsidiaries have been eliminated from the consolidated financial statements. Balances between the Academy and the subsidiaries are disclosed in the notes of the Academy's balance sheet. A separate statement of Financial Activities and Income and Expenditure Account for the Academy has not been presented because the Academy has taken advantage of the exemption afforded by FRS 102.

(d) Income

The specific bases for accounting for income are described below. In general terms, income is accounted for on a receivable basis, gross of related expenditure. Income is only

recognised where there is evidence of entitlement, where it is probable that income will be received and recognised only when income can be measured.

- Grants receivable are recognised when entitlement to the grant is approved and communicated.
- Gifts and donations are included in full in the statement of financial activities when receivable.
- For legacies, entitlements is taken as the earlier of the date on which either: the Academy is aware that probate has been granted, the estate has been finalised and notification has been made by the executor(s) to the Academy that a distribution will be made; or when a distribution is received from the estate. Receipt of a legacy, in whole or in part, is only considered probable when the amount can be measured reliably and the Academy has been notified to the executor's intention to make a distribution.
- Income from sales of goods or contracts for services is recognised when the goods and services are delivered.
- Investment income is included in the Statement of Financial Activities in the year in which it is receivable.
- Other income consists of subscriptions which are recognised on an accruals basis.

(e) Donated services and facilities

Donated professional services and donated facilities are recognised as income when the Academy has control over the item, any condition associated with the donated item has been met, the receipt of economic benefit from the use by the Academy of the item is probable and that economic benefit can be measured reliably. On receipt, donated professional services and donated facilities are recognised on the basis of the value of the gift to the Academy which is the amount the Academy would have been willing to pay to obtain services or facilities of equivalent economic benefit on

the open market; a corresponding amount is then recognised in expenditure in the period of receipt.

(f) Expenditure

Expenditure is recognised on an accruals basis, gross of any related income. Costs are allocated to activities as described below. Indirect costs are apportioned to activities on a basis consistent with the use of the resources.

- Costs of raising funds comprise direct costs and expense of staff involved with fundraising, fees paid to investment fund managers, and trading costs.
- Charitable activities – grants. Grants payable are charged in the year in which the commitments to pay the grants are made.
- Charitable activities – other. Other charitable expenditure includes all direct expenditure, including irrecoverable VAT and staff costs, which is directly attributable to activities. Indirect costs are allocated to each charitable activity based on the number of staff directly supporting the activity.

(g) Grants payable

Grants payable are recognised when entitlement to the grant is approved and communicated, and also include returned grants that are accounted for on receipt.

(h) Support costs

Support costs are those functions that assist the work of the Academy and mainly comprise of staff costs and overheads. Support costs, which include irrecoverable VAT, are assigned to the Academy's charitable objectives in line with the direct expenditure under each heading.

(i) Operating leases

Rental costs under operating leases are charged to the Statement of Financial Activities evenly over the term of the lease.

(j) Tangible fixed assets

Depreciation is provided on all tangible fixed assets at rates calculated to write off the cost of each asset over its expected useful life, as follows:

- Office fixtures and fittings – over five years.
- Computer equipment – over three years.
- Leasehold cost – over term of lease.
- Carlton House Terrace – over the term of lease.

(k) Investments

Listed investments are included in the financial statements at market value at the balance sheet date. Gains/losses on disposal of investments and revaluation of investments are recognised in the year of gain or loss and are allocated to the funds to which the investments relate. Investments in subsidiaries are included in the financial statements at cost.

(l) Pensions

The Academy operates a defined contribution pension scheme. The assets of the scheme are held separately from those of the Academy in independently administered funds. The pensions cost charge represents contributions payable to the scheme in the year. The Academy has no liability under the scheme other than the payment of those contributions.

(m) Funds

General funds are those that are available for use at the Trustee Board's discretion in the furtherance of the Academy's objectives. Designated funds are unrestricted funds set aside for unrestricted purposes and which would otherwise form part of general funds. Details of the nature and purpose of each designated fund are set out in note 16. Restricted funds are funds that are subject to restrictions imposed by donors and are applied in accordance with these restrictions. Details of the nature and purpose of each restricted fund are set out in note 16.

(n) Debtors

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid net of any trade discounts due.

(o) Stock

Stock is included at the lower of cost or net realisable value.

**(p) Cash and cash equivalents
at bank**

Cash and cash equivalents at bank includes cash and short term highly liquid investments obtainable within three months from the date of acquisition. Cash held by Fund Managers in discretionary mandates is included in short term deposits in the balance sheet (and included in cash and cash equivalents in the cash flow statement) and excluded from Fixed Asset Investments.

(q) Creditors

Creditors are recognised where the Academy has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors are normally recognised at their settlement amount after allowing for any trade discounts due.

(r) Financial instruments

The Academy only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value with the exception of bank loans which are subsequently measured at amortised cost using the effective interest method.

(s) Corporation taxation

The Academy is exempt from tax on income and gains falling within section 505 of the Taxes Act 1988 or section 252 of the Taxation of Chargeable Gains Act 1992 to the extent that these are applied to its charitable objectives.

(t) Going concern

No material uncertainties that may cast significant doubt about the ability of the charity to continue as a going concern have been identified by the Trustees and therefore these accounts have been prepared on a going concern basis.

The Royal Academy of Engineering's senior leadership team monitor the Group and Charity's cash position on a monthly basis by looking at the cash flow forecast for the next 12 months, broken down by month. This forecast, combined with an assessment of the future reserves position, forms the basis of our assessment of going concern. It has been stress tested to reflect a number of possible scenarios. In doing so, we have particularly considered the impact of a global economic recession that results in austerity measures and the reduction of the Charity's government funding being reduced over and above our key risk assumptions (set out in the report of Trustee Board).

Based on these forecasts, and the Group's net asset position of £220.1 million, which is comprised primarily of cash and investments, we believe that the going concern basis of accounting remains appropriate for our accounts.

**(u) Critical accounting judgements
and estimations**

In the application of the accounting policies, which are described in this note, the Trustees are required to make judgements and assumptions leading to financial estimates about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The assumptions and associated estimates are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

Year Ended 31 March 2024	Notes	Unrestricted funds £000	Restricted funds £000	Totals 31 March 2024 £000	Unrestricted funds £000	Restricted funds £000	Totals 31 March 2023 £000
Note 2 – Donations and legacies							
Green Future Fellowships		–	150,000	150,000	–	–	–
ERA Foundation Enterprise Fellowships		63	–	63	–	63	63
Wikipedia Project		–	–	–	–	50	50
This is Engineering		–	371	371	–	1,081	1,081
Prince Philip Fund		80	–	80	680	–	680
Queen Elizabeth Prize for Engineering		–	188	188	–	150	150
		143	150,559	150,702	680	1,343	2,023
Note 3 – Grants							
DSIT core grant	4	–	39,434	39,434	–	38,394	38,394
Note 4 – DSIT core grant							
Grant was expended on:							
Programme expenditure		–	36,511	36,511	–	35,526	35,526
Costs of managing programmes		–	2,922	2,922	–	2,868	2,868
		–	39,433	39,433	–	38,394	38,394
Note 5 – Other grants and contracts							
International Science Partnerships Fund		–	4,966	4,966	–	–	–
Global Challenges Research Fund		–	3,152	3,152	–	5,234	5,234
UK Intelligence Community (IC) Postdoctoral Research Fellowships		–	1,165	1,165	–	1,269	1,269
Global Talent Visas		–	1,003	1,003	–	714	714
Programme for safer complex industrial and engineered systems		–	739	739	–	898	898
Decarbonised Grid Policy Delivery Programme		–	649	649	–	–	–
Sainsbury Management Fellowships		–	597	597	–	458	458
Amazon Future Engineer Bursaries		–	582	582	–	446	446
End of engineered life		–	352	352	–	1,270	1,270
Engineering skills where they are most needed		–	328	328	–	903	903

Year Ended 31 March 2024	Notes	Unrestricted funds £000	Restricted funds £000	Totals 31 March 2024 £000	Unrestricted funds £000	Restricted funds £000	Totals 31 March 2023 £000
Leverhulme Fellowships		–	325	325	–	326	326
1851 Royal Commission Enterprise Fellowships		–	278	278	–	300	300
The Motorsport MSc Scholarships		–	257	257	–	23	23
D&I Charter		–	136	136	–	–	–
Africa Programmes		–	122	122	–	121	121
Newton Fund		–	232	232	–	1,901	1,901
Other awards and contracts		–	108	108	–	132	132
Welsh Valleys Bursaries Scheme		–	94	94	–	121	121
Tactical fund		–	55	55	–	–	–
Africa Prize for Engineering Innovation		–	43	43	–	–	–
Engineering FE		–	30	30	–	–	–
MacRobert Award		–	26	26	–	21	21
Enterprise Hub		–	25	25	–	38	38
Connecting STEM Teachers		–	–	–	–	150	150
Frontiers IIED		–	–	–	–	122	122
Sir Ralph Robins Scholarships		–	–	–	–	50	50
Engineering Leadership Scheme – Buro Happold		–	–	–	–	39	39
RAEng/EPSCRC Research Fellowships		–	–	–	–	4	4
		–	15,264	15,264	–	14,540	14,540
Total charitable activities		–	54,697	54,697	–	52,934	52,934
Note 6 – Investment income							
Dividends and income from equity investments and fixed interest bonds		501	681	1,182	322	664	987
Interest on bank deposits		95	4	99	30	4	33
		596	685	1,281	352	668	1,020
Note 6a – Other trading income							
Sponsorship and events		175	–	175	109	–	109
Subscription income		424	–	424	186	–	186
Advertising income and merchandising		3	–	3	23	–	23
Conferencing business		873	–	873	829	–	829
		1,475	–	1,475	1,147	–	1,147

Note 7 – Charitable expenditure

	Talent and diversity	Innovation	Policy and engagement	Queen Elizabeth Prize for Engineering Foundation	Total 31 March 2024	Total 31 March 2023
	£000	£000	£000	£000	£000	£000
Unrestricted						
Charitable activities	8	–	94	–	102	112
Charitable grants	112	–	–	–	112	–
Direct salaries	–	–	–	–	–	314
Support costs	63	–	52	–	115	845
	183	–	146	–	329	1,271
Restricted						
Charitable activities	1,785	4,804	1,554	1,844	9,987	9,834
Charitable grants	3,762	27,096	558	–	31,416	33,189
Direct salaries	1,065	5,858	3,117	226	10,266	6,413
Support costs	851	4,862	673	56	6,442	5,217
	7,463	42,620	5,902	2,126	58,111	54,653
Total charitable activities	7,646	42,620	6,048	2,126	58,440	55,924

Total support costs of £6,557,000 are made up of indirect staff costs totalling £2,725,000 and accommodation costs and overheads totalling £3,832,000.

2023 Total charitable activities	7,298	40,738	6,276	1,612	55,924
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In 2023 £1,271,000 of charitable activities expenditure related to unrestricted funds and £54,653,000 related to restricted funds.

Note 8 – Other costs

	2024	2023
	£000	£000
Auditor's fees:		
Audit	80	50
Other services	12	14
Legal and professional fees	52	45
	144	109

£5,000 was charged to the Academy in relation to operating leases.

Note 9 – Staff and pensions costs

	2024	2023
	£000	£000
Gross salaries	9,958	7,712
Employer's National Insurance less NI Allowance	1,128	904
Benefits in kind	57	40
Pension charge	1,000	764
Recruitment costs	179	257
Temporary staff costs	149	333
Training costs	11	41
Other costs	199	52
	12,680	10,103

	Number	Number
Average number of staff in the year by activity		
Engineering and education	26	26
Programmes and fellowship	81	61
Policy and external affairs	52	36
Executive, development, finance and administration	48	42
Queen Elizabeth Prize for Engineering Foundation	4	4
	212	169

No remuneration is paid to the President or members of the Trustee Board of the Academy. Travelling expenses to attend Trustee Board meetings were nil in 2023/24 (2022/23 nil).

Ex gratia payments of £29,000 were made in 2023/24 (2022/23 nil).

The emoluments of higher paid staff within the following scales were:		
£60,000–£70,000	13	7
£70,001–£80,000	5	5
£80,001–£90,000	6	2
£90,001–£100,000	2	3
£100,001–£110,000	3	3
£110,001–£120,000	1	1
£120,001–£130,000	1	–
£130,001–£140,000	1	1
£190,001–£200,000	1	1

Emoluments include salary, bonuses and benefits in kind but exclude pension scheme contributions. Staff numbers are based on full time equivalent.

The executive leadership team comprises the Chief Executive, Chief Operating Officer, Executive Director Programmes, and two directors (2022/23 two directors), who manage the day-to-day operations of the charity. Their aggregate remuneration in the year was £765,000 (2022/23 £730,000).

Note: There were no resignations and no appointments among the executive leadership team during the year.

Note 9(b) – Pensions

The Academy operates a defined contribution pension scheme for staff that joined after 1 January 2000 that is compliant with auto-enrolment legislation. The assets of the scheme are held separately from those of the Academy in independently administered funds. The Academy has no liability under the scheme other than the payment of contributions.

Note 10

	Computer systems and equipment	Office fixtures and fittings	Leasehold	Carlton House Terrace Improvement	Total
	£000	£000	£000	£000	£000
Tangible fixed assets (group and charity)					
Cost					
At 1 April 2023	3,334,000	1,656,000	12,510,000	13,997,000	31,497,000
Additions	544,000	235,000	–	–	779,000
Transfers	(822,000)	822,000	–	–	–
At 31 March 2024	3,056,000	2,713,000	12,510,000	13,997,000	32,276,000
Depreciation					
At 1 April 2023	(1,724,000)	(1,110,000)	(1,650,000)	(1,526,000)	(6,010,000)
Charge for the year	(440,000)	(282,000)	(91,000)	(126,000)	(939,000)
At 31 March 2024	(2,164,000)	(1,392,000)	(1,741,000)	(1,652,000)	(6,949,000)
Net book value					
At 31 March 2024	892,000	1,321,000	10,769,000	12,345,000	25,327,000
At 31 March 2023	1,610,000	546,000	10,860,000	12,471,000	25,487,000

All assets are used for charitable purposes.

Medal collections

- The Sir Denis Rooke Medals Collection is on loan from the family of Sir Denis Rooke, who served as Academy President from 1986 to 1991. The collection includes many of the awards Sir Denis received during his distinguished career as a pioneer of the UK's gas industry.
- The Whittle Medals Collection is on loan from the family of Sir Frank Whittle, who patented the jet propulsion engine in 1930. The medals relate to his achievements in engineering and celebrate his successes.
- The Warner Medals Collection was a personal gift by Professor Sir Frederick Warner after his death in 2010. The medals relate to his achievements in engineering and celebrate his successes.

These medal collections are not held on the balance sheet, the Trustees consider that it is not practicable to obtain a valuation, but are satisfied that the value of the medals collections is not material.

Note 11 – Investments (group and charity)

Investments held in the general fund portfolio represent those held by the Royal Academy of Engineering with the objective of generating income for the Academy's charitable object while preserving the capital value of the portfolio.

Investments held in the restricted fund portfolio represent those held by the Queen Elizabeth Prize for Engineering Foundation with the objective of generating income for the Foundation's charitable object.

	General fund (Charity) 2024	Restricted income funds (Charity) 2024	Designated income funds (Charity) 2024	Total funds (Charity) 2024	Restricted fund (Subsidiary) 2024	Total Portfolio (Group) 2024
	£000	£000	£000	£000	£000	£000
Market value at 1 April	23,879	–	1,626	25,505	24,599	50,104
Add acquisitions at cost	22,454	149,955	1,443	173,852	11,210	185,062
Less: sales proceeds	(22,299)	–	(1,441)	(23,740)	(12,682)	(36,422)
Net investment gains for the year	2,520	389	242	3,151	2,308	5,459
Market value at 31 March	26,554	150,344	1,870	178,768	25,435	204,203

Investments in the general fund (charity) consist of UK government gilts segregated to cover the loan liability repayable in February 2027, the remaining portfolio is placed in securities listed on global stock markets (70% of portfolio) and fixed interest bonds/diversified assets (30% of portfolio).

The designated income funds consists of the Green Future Fellowships fund invested in a money market fund in the interim prior to the finalisation of the long-term investment strategy and funds invested in line with the general fund (Charity) investment strategy to support the MacRobert Award and funds invested in securities listed on global stock markets to support the Colin Campbell Mitchell Award.

Investments in the restricted fund (subsidiary) consist of securities listed on global stock markets (75% of portfolio) and fixed interest bonds/diversified assets (25% of portfolio).

	Notes	2024	Group 2023	2024	Charity 2023
		£000	£000	£000	£000
Note 12 – Debtors					
Grants and sponsorship receivable		6,497	7,416	6,497	7,416
Prepayments		216	201	216	201
Other debtors		999	1,514	766	1,327
Amounts due from subsidiary undertakings		–	–	380	540
		7,712	9,131	7,859	9,484
Note 13 – Stocks					
Publications, Academy ties, presentation plates and medals		2	2	2	2
Note 14a – Creditors (amount falling due within one year)					
Committed grants and prizes		(6,629)	(7,632)	(6,629)	(7,632)
Deferred income	14b	(557)	(647)	(557)	(647)
Subscriptions in advance		(227)	(192)	(227)	(192)
Other creditors		(1,963)	(1,739)	(889)	(932)
Amounts due to subsidiary undertakings		–	–	(10)	(10)
Social security and other costs		(338)	(249)	(338)	(249)
		(9,714)	(10,459)	(8,650)	(9,662)

Notes	Group		Charity	
	2024	2023	2024	2023
	£000	£000	£000	£000
Note 14b – Deferred income				
Deferred income comprises of advance funding for the Connecting STEM Teachers Programme, Enterprise Fellowships and Research Fellowships.				
Balance at 1 April	(647)	(497)	(647)	(497)
Amount released to income earned from charitable activities	450	472	450	472
Amount deferred in year	(360)	(621)	(360)	(621)
Balance as at 31 March	(557)	(647)	(557)	(647)

Note 14c – Creditors (amount falling beyond one year)

Bank loan*				
Due one to two years	–	–	–	–
Due within two to five years	(11,500)	(11,500)	(11,500)	(11,500)
Due after five years	–	–	–	–
	(11,500)	(11,500)	(11,500)	(11,500)

Note 15 – Future commitments

Total minimum commitments under operating leases				
Rent				
not later than one year	240	240	240	240
Equipment				
not later than one year	–	–	–	–
	240	240	240	240

* The Academy has a secured loan of £11.5 million with Aviva, the capital sum is repayable February 2027, an interest rate of 3.11% fixed being applied. The loan is secured against 3 Carlton House Terrace which was valued at £30.05 million on 1 December 2022. There is currently a 38% loan to value ratio. There is a maximum 45% loan to value ratio set out in the terms of the loan.

Note 16 – Statement of changes in funds**(a) Restricted funds**

The Academy's restricted funds consist of the monies received under grants, corporate donations and contracts to support specific schemes as follows:

- **Department for Science, Innovation and Technology (DSIT)** provides a government grant to fund programmes in the areas of engineering research and promoting the public understanding of engineering.

- **Green Future Fellowships** the government has provided funding of £150m to support Green Futures Fellowships for at least 50 leading engineers and scientists to develop practical, breakthrough green technologies and climate changes solutions.
- **International Science Partnerships Fund (ISPF)** is designed to enable potential and foster prosperity. It supports UK researchers and innovators to work with international

partners on some of the most pressing themes of our time.

- **End of engineered life** is a programme funded by the Lloyd's Register Foundation to improve safety in waste and decommissioning for industrial and engineered systems, delivered through Engineering X.

- **Programme for safer complex industrial and engineered systems** is a programme funded by the Lloyd's Register Foundation, delivered through Engineering X.

- **Engineering skills where they are most needed** is a programme funded by the Lloyd's Register Foundation, delivered through Engineering X.

- **Gatsby Charitable Foundation** supports Sainsbury Management Fellowships.

- **RAEng/EPSC Research Fellowships** are administered by the Academy and funded jointly by the Academy and the Engineering and Physical Sciences Research Council.

- **Leverhulme Trust** supports Senior Research Fellowships of one-year duration.

- **Engineering Leaders Scholarships** assist undergraduate engineering students to realise their full potential and achieve their career goals.

- **Connecting STEM Teachers programme** is building a national network of support for STEM leaders in secondary schools and is supported by Shell, The Arthur Clements Fund, BAE Systems, Boeing, the estate of the late Mr John Gozzard, and the Helsington Foundation.

- **Further Education Fund** is made up of various donations that are used to support the development of new, and the extension of existing, programmes in further education.

- **The Enterprise Hub** supports exceptional entrepreneurs with high-potential ideas to build bold and disruptive enterprises that have a positive impact on society.

- **Africa Prize for Engineering Innovation** aims to stimulate, celebrate and reward innovation and entrepreneurship in sub-Saharan Africa.

- **Ms Morag Campbell Nelder Legacy** is to be used to fund the Colin Campbell Mitchell Award, which is given to an individual or group of outstanding engineers.

- **Newton Fund** schemes promote research and innovation intended to have a direct and long-term impact on the economic development and social welfare of countries

participating with the UK in the Newton Fund.

- **This is Engineering**, previously known as the Engineering Talent Project, is a multi-year campaign to encourage more young people from all backgrounds to consider a career in engineering by changing perceptions of the profession.

- **Enriching Engineering Education Programme** is centered on a combination of two way secondments and collaborative workshops. These secondments and workshops lead to improved industry-academia links and result in wide-ranging benefits for both parties.

- **Other awards** and contracts are donations and contracts by a number of companies for specific programmes each year.

- **Global Challenges Research Fund** is part of a £1.5 billion UK government fund to support cutting-edge research that addresses the challenges faced by developing countries through collaborative research and innovation, and research and innovation capacity building within both the UK and developing countries.

- **UK Intelligence Community (IC) Postdoctoral Research Fellowships** are offered by the Government Office for Science with the Academy acting as academic engagement partner. They support outstanding early-career science or engineering researchers to promote unclassified basic research in areas of interest to the intelligence, security and defence community.

- **Northern Ireland Engineering Education Programme** is working with schools and colleges across Northern Ireland to encourage more young people, particularly young women and those from socially disadvantaged backgrounds and other under-represented groups, to progress towards careers in engineering.

- **Amazon Future Engineer Bursaries** is a national bursary programme aimed at supporting women A-level and BTEC/OCR (or Scottish equivalent) students from low-income households who wish to study computer science or related engineering courses at UK universities.

- **Connecting STEM Teachers Social Mobility Pilot** is an evaluated two-year pilot project supporting schools to run action research projects to identify and tackle problems in their schools that they see as barriers that disadvantaged groups of young people face in accessing STEM education and continuing onto STEM careers.

- **Shott Scale Up Accelerator** focuses on leadership skills development and carefully tailored support designed in collaboration with industry experts and leading engineering and technology business leaders.

- **Frontiers** connects and empowers enthusiastic researchers, innovators and practitioners from the UK and around the world to work together on new ways to solve complex global challenges.

- **Africa Programmes** provide funding and training to individuals and institutions in Africa in order to strengthen the engineering profession and demonstrate the importance of engineering in improving quality of life and economic development.

(b) Designated funds

Strategic Development Fund is used to deliver impactful charitable activities over the next five years and strengthen the Academy for the longer term.

- **The Capital Building Fund** has been used to create a base for the Academy's enterprise activities and develop 3 Carlton House Terrace into a national forum of engineering excellence.

- **The Prince Philip Fund** is used to secure the long-term future of the Academy, including a permanent home at Prince Philip House, honouring the legacy of our late founding Senior Fellow, HRH The Duke of Edinburgh.

Note 16 Continued	Balance at		Transfers between funds	Net investment gains	Balance at
	1 April 2023	Income			
	£000	£000	£000	£000	£000
Restricted funds					
Government grant	-	39,432	(39,432)	-	-
Green Future Fellowships	-	150,033	-	-	150,423
International Science Partnerships Fund	-	4,966	(4,966)	-	-
Decarbonised Grid Policy Delivery Programme	-	649	(38)	-	611
D&I Charter	-	136	(91)	-	45
Tactical fund	-	55	(55)	-	-
End of engineered life	1,063	352	(831)	-	584
Programme for safer complex industrial and engineered systems	1,122	739	(349)	-	1,512
Engineering skills where they are most needed	473	328	(725)	-	76
Sainsbury Management Fellowships	-	597	(597)	-	-
RAEng/EPSRC Research Fellowships	-	-	-	-	-
Leverhulme Fellowships	-	325	(325)	-	-
Engineering Leaders Scholarships	177	-	-	-	177
Connecting STEM Teachers	158	-	(158)	-	-
Connecting STEM Teachers Social Mobility Pilot	251	-	(108)	-	143
Amazon Future Engineer Bursaries	443	582	(385)	-	640
Northern Ireland Engineering Education Programme	299	6	(265)	-	40
Sir Ralph Robins Scholarships	320	-	(26)	-	294
Welsh Valleys Bursaries Scheme	71	94	(136)	-	29
Engineering FE	245	30	(90)	-	185
Enterprise Hub	215	25	(110)	-	130
Shott Scale Up Accelerator	551	-	(223)	-	328
Africa Prize for Engineering Innovation	278	43	(56)	-	265
Colin Campbell Mitchell Award	378	14	(15)	-	461
Newton Fund	-	232	(232)	-	-
Capital Building Fund	178	-	-	(178)	-
This is Engineering	651	371	(415)	-	607

Note 16 Continued	Balance at		Transfers between funds	Net investment gains	Balance at
	1 April 2023	Income			
	£000	£000	£000	£000	£000
Enriching Engineering Education Programme	305	-	1	-	306
Education Studies and Support	-	1	(1)	-	-
MacRobert Award	1,141	53	(82)	-	1,270
Other awards and contracts	307	121	(348)	-	80
1851 Royal Commission Enterprise Fellowships	-	278	(263)	-	15
Global Challenges Research Fund	-	3,152	(3,152)	-	-
Global Talent Visas	-	1,003	(1,003)	-	-
Wikipedia Project	50	-	(3)	-	47
UK Intelligence Community (IC) Postdoctoral Research Fellowships	1,298	1,165	(1,303)	-	1,160
Frontiers IIED	30	-	(30)	-	-
Africa Programmes	121	122	(72)	-	171
The Motorsport MSc Scholarships	9	257	(156)	-	110
Engineering Leadership Scheme – Buro Happold	18	-	(2)	-	16
Queen Elizabeth Prize for Engineering	24,856	798	(2,299)	(299)	25,363
Total restricted funds	35,008	205,940	(58,322)	(477)	2,939
Designated funds					
Strategic Development Fund	1,828	-	-	(280)	1,548
Capital Building Fund	2,052	-	-	228	2,280
Prince Philip Fund	-	-	-	767	767
Ingenia Designated fund	-	3	(3)	-	-
Total designated funds	3,880	3	(3)	715	4,595
General fund	27,931	2,212	(1,964)	(238)	30,460
Total funds	66,819	208,155	(60,289)	-	220,143

The general fund surplus for the year of £248,000 is the difference between income of £2,211,833 and expenditure of £1,963,833

All other funds, other than the Queen Elizabeth Prize for Engineering, are funds of the parent charity.

Capital Building Fund transfer relates to fixed asset additions. Queen Elizabeth Prize for Engineering transfer relates to the management fee charged by the charitable parent.

Note 16 Continued (prior year note)

	Balance at 1 April 2022	Income	Expenditure	Transfers between funds	Net investment (losses)	Balance at 31 March 2023
	£000	£000	£000	£000	£000	£000
Restricted funds						
Government grant	-	38,394	(38,394)	-	-	-
End of engineered life	456	1,270	(663)	-	-	1,063
Programme for safer complex industrial and engineered systems	477	898	(253)	-	-	1,122
Engineering skills where they are most needed	547	903	(978)	-	-	473
Sainsbury Management Fellowships	-	458	(458)	-	-	-
RAEng/EPSRC Research Fellowships	-	4	(4)	-	-	-
Leverhulme Fellowships	-	326	(326)	-	-	-
Engineering Leaders Scholarships	177	-	-	-	-	177
Connecting STEM Teachers	397	150	(388)	-	-	158
Connecting STEM Teachers Social Mobility Pilot	300	-	(49)	-	-	251
Amazon Future Engineer Bursaries	230	446	(233)	-	-	443
Northern Ireland Engineering Education Programme	477	-	(178)	-	-	299
Sir Ralph Robins Scholarships	301	50	(31)	-	-	320
Welsh Valleys Bursaries Scheme	93	121	(144)	-	-	71
Engineering FE	300	-	(55)	-	-	245
Enterprise Hub	215	38	(38)	-	-	215
Shott Scale Up Accelerator	841	-	(290)	-	-	551
Africa Prize for Engineering Innovation	411	-	(132)	-	-	278
Colin Campbell Mitchell Award	401	6	(18)	-	(11)	378
Newton Fund	-	1,901	(1,901)	-	-	-
Capital Building Fund	1,726	-	-	(1,548)	-	178
This is Engineering	8	1,081	(437)	-	-	651
Enriching Engineering Education Programme	305	-	(0)	-	-	305
Education Studies and Support	21	-	(21)	-	-	-

Note 16 Continued (prior year note)

	Balance at 1 April 2022	Income	Expenditure	Transfers between funds	Net investment (losses)	Balance at 31 March 2023
	£000	£000	£000	£000	£000	£000
MacRobert Award	1,279	39	(73)	-	(104)	1,141
Other awards and contracts	204	132	(27)	-	-	308
1851 Royal Commission Enterprise Fellowships	-	300	(300)	-	-	-
Global Challenges Research Fund	90	5,234	(5,325)	-	-	-
Global Talent Visas	-	714	(714)	-	-	-
Wikipedia Project	-	50	-	-	-	50
UK Intelligence Community (IC) Postdoctoral Research Fellowships	1,453	1,269	(1,424)	-	-	1,298
Frontiers IIED	-	122	(92)	-	-	30
Africa Programmes	-	121	-	-	-	121
The Motorsport MSc Scholarships	-	23	(14)	-	-	9
Engineering Leadership Scheme – Buro Happold	-	39	(21)	-	-	18
ERA Foundation Enterprise Fellowships	-	63	(63)	-	-	-
Queen Elizabeth Prize for Engineering	27,461	793	(1,783)	(282)	(1,333)	24,856
Total restricted funds	38,168	54,945	(54,827)	(1,830)	(1,448)	35,008
Designated funds						
Strategic Development Fund	2,750	-	-	(922)	-	1,828
Capital Building Fund	974	-	-	1,078	-	2,052
Ingenia Designated fund	-	23	(23)	-	-	-
Total designated funds	3,724	23	(23)	156	-	3,880
General fund	28,772	2,156	(2,773)	1,674	(1,899)	27,931
Total funds	70,664	57,124	(57,622)	-	(3,347)	66,819

The general fund deficit for the year of £616,412 is the difference between income of £2,156,088 and expenditure of £2,772,500.

All other funds, other than the Queen Elizabeth Prize for Engineering, are funds of the parent charity.

Capital Building Fund transfer relates to fixed asset additions. Queen Elizabeth Prize for Engineering transfer relates to the management fee charged by the charitable parent.

Note 17 – Analysis of net assets between funds

	Tangible fixed assets 2024	Investments 2024	Current assets 2024	Liabilities 2024	Total net assets 2024
	£000	£000	£000	£000	£000
Restricted funds	25,327	177,649	2,118	(20,006)	185,088
Special and designated funds	–	–	4,595	–	4,595
General funds	–	26,554	5,114	(1,208)	30,460
Total	25,327	204,203	11,827	(21,214)	220,143

Note 17 – Analysis of net assets between funds (prior year note)

	Tangible fixed assets 2023	Investments 2023	Current assets 2023	Liabilities 2023	Total net assets 2023
	£000	£000	£000	£000	£000
Restricted funds	25,487	26,225	3,686	(20,390)	35,008
Special and designated funds	–	–	3,880	–	3,880
General funds	–	23,879	5,621	(1,569)	27,931
Total	25,487	50,104	13,187	(21,959)	66,819

Note 18 – Subsidiary activities

The Academy has one wholly owned subsidiary, RAE Trading Limited (registered company number 08038360) and a charitable subsidiary company, the Queen Elizabeth Prize for Engineering Foundation (registered charity number 1147743, registered company number 8077332). RAE Trading Limited was formed in April 2012 and manages a conferencing business at Prince Philip House; all available trading profits are donated to the charity via a qualifying charitable donation. The President of the Royal Academy of Engineering is an Ex-Officio Trustee of the Queen Elizabeth Prize for Engineering Foundation.

RAE Trading Limited and the Queen Elizabeth Prize for Engineering Foundation are registered in the UK and have the same year end date as the charity.

The Academy owns all 100 £1 shares in RAE Trading Limited.

The Queen Elizabeth Prize for Engineering Foundation was formed in May 2012 and advances the education of the public in the subject of engineering by awarding an annual high-profile and internationally recognised prize for engineering.

All activities have been consolidated on a line-by-line basis in the statement of financial activities and these results have been adjusted to eliminate income and expenditure relating to conferencing activities to the Academy and the Queen Elizabeth Prize for Engineering, and management fees payable to the Academy.

At 31 March 2024	RAE Trading Ltd		Queen Elizabeth Prize for Engineering Foundation	
	2024	2023	2024	2023
	£000	£000	£000	£000
Total income	1,226	1,046	798	793
Total expenditure	(988)	(910)	(2,598)	(2,066)
	238	136	(1,800)	(1,273)
Total investment gains/(losses)	–	–	2,307	(1,333)

At 31 March 2024	RAE Trading Ltd		Queen Elizabeth Prize for Engineering Foundation	
	2024	2023	2024	2023
	£000	£000	£000	£000
Net surplus/(deficit) before qualifying charitable donation	238	136	507	(2,605)
Qualifying charitable donation to Royal Academy of Engineering	(238)	(136)	–	–
Retained net surplus/(deficit) for the year	–	–	507	(2,605)
The aggregate of the assets and liabilities was:				
Assets	588	687	26,227	25,515
Liabilities	(350)	(611)	(864)	(659)
Funds	238	76	25,363	24,856

The parent charity's results for the year are disclosed as follows:

	Academy	
	2024	2024
	£000	£000
Gross income	207,298	54,695
Retained net surplus/(deficit) for the year	152,418	(1,656)

Note 19 – Related party transactions

The Academy has the following transactions within its subsidiaries during the year:

	Sales	Salary recharges	Management charges	Debtors	Creditors
	£000	£000	£000	£000	£000
Queen Elizabeth Prize for Engineering Foundation	–	296	299	103	–
RAE Trading Limited	353	–	214	277	10

A member of staff of the Royal Academy of Engineering R Earnshaw is a close family relation of C Earnshaw who is a Trustee of the Royal Academy of Engineering.

The staff appointment was made prior to C Earnshaw becoming a Trustee. All employee salaries including that of R Earnshaw are set in line with market benchmarks.

All transactions in respect of trustees is provided for in Note 9.

Legal and administrative information

NAME AND REGISTERED OFFICE

The Royal Academy of Engineering is a registered charity No. 293074. It is a corporate body governed by Royal Charter. The registered office is Prince Philip House, 3 Carlton House Terrace, London SW1Y 5DG.

PROFESSIONAL ADVISERS

Bankers

National Westminster Bank plc
Charing Cross, London Branch
PO Box 113, Cavell House
2a Charing Cross Road London
WC2H 0NN

Solicitors

Womble Bond Dickinson
4 More London Riverside London
SE1 2AU

Auditor

BDO LLP
55 Baker Street London W1U 7EU

Investment managers

Waverton Investment Management Limited, 16 Babmaes Street London SW1Y 6AH

TRUSTEE BOARD MEMBERS

The Academy's Trustee Board comprises 13 members elected by and from the Fellowship with the discretion to co-opt up to two additional members. Trustee Board members are the Trustees of the Academy as defined under its status as a registered charity. The Trustee Board meets at least six times a year and is responsible for the governance of the Academy. At these meetings, the Trustee Board will discuss issues of strategy and policy and also matters referred to it by the governance committees for Finance, Audit and Risk, Conduct, Membership, Nominations, and Remuneration.

All Trustee Board members and committee members give their time freely; no remuneration was paid in the year beyond the reimbursement of reasonable expenses. The majority of Academy activities are controlled by committees primarily composed of Fellows. The members of the Trustee Board during the year were:

OFFICERS

President

Professor Sir Jim McDonald
GBE FREng FRSE

Vice-Presidents

Dr Steve Denton FREng
Vice-President for Committee Coordination
Catriona Schmolke CBE FREng
Vice-President for Fellowship Engagement

Members of the Trustee Board at the date the report was approved:

Professor Bashir Al-Hashimi CBE FREng
Dr Enass Abo-Hamed MBE (appointed 19 September 2023)
Jane Atkinson CBE FREng
Dame Dawn Childs DBE FREng (appointed 19 September 2023)
David Eyton CBE FREng
Dame Sue Gray DBE CB FREng
Dr Carolyn Griffiths FREng
Professor Sarah Hainsworth OBE FREng (appointed 19 September 2023)
Professor Ric Parker CBE FREng
Professor Nilay Shah OBE FREng
Paul Taylor CBE FREng (appointed 19 September 2023)

Other Trustees who served during the period of the report:

Professor Peter Guthrie OBE FREng (retired January 2024)
Chris Earnshaw OBE FREng (retired 19 September 2023)
Professor Eileen Harkin-Jones OBE FREng (retired 19 September 2023)
Sir Simon Bollom KBE CB FREng (retired 19 September 2023)

Chairs of Governance Committees

Audit and Risk – Dame Dawn Childs DBE FREng
Conduct – Dr Steve Denton FREng
Finance and Investment – David Eyton CBE FREng
Membership – Professor Nilay Shah OBE FREng
Nominations and Remuneration – Professor Sir Jim McDonald GBE FREng FRSE

Chairs of Operating Committees

Awards – Professor Bashir Al-Hashimi CBE FREng
Education and Skills – Phil Smith CBE FREng
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International – Professor Dame Sarah Springman FREng
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Partners, supporters and donors

Contributors to Academy programmes

The Academy acknowledges the generosity of all its supporters who have enabled the continuing growth and development of its programmes and activities. In this financial year, support was received from the following individuals and organisations:

Company	Programme
AB Dynamics	Graduate Engineering Engagement Programme
Amazon UK	Amazon Future Engineer bursary
Amey	Graduate Engineering Engagement Programme
Arup	Ingenia
Atelier Ten	Graduate Engineering Engagement Programme
BAE Systems	T Levels in Engineering and Manufacturing, Awards Dinner
Boeing	Connecting STEM Teachers
bp	This is Engineering, Graduate Engineering Engagement Programme, Awards Dinner
chapmanbdsp	Graduate Engineering Engagement Programme
City & Guilds	This is Engineering
Evolito	Graduate Engineering Engagement Programme
Fugro	Graduate Engineering Engagement Programme
ITP Aero	Graduate Engineering Engagement Programme
Johnson Matthey	Graduate Engineering Engagement Programme
Mathys & Squire	Enterprise Hub
MBDA	This is Engineering
Mott MacDonald	This is Engineering
National Grid	Graduate Engineering Engagement Programme
Rio Tinto	This is Engineering, Awards Dinner
Rolls-Royce	This is Engineering, Graduate Engineering Engagement Programme
Royal Air Force	This is Engineering
Shell UK	This is Engineering
Two Sigma Investments	Graduate Engineering Engagement Programme
Venterra	This is Engineering
WSP UK	Graduate Engineering Engagement Programme
Zurich Engineering	Graduate Engineering Engagement Programme

Major university partners

Heriot-Watt University
University of Southampton

University partners

Bangor University
University of Cambridge
King's College London
University of Edinburgh
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The MacRobert Trust
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Rosetrees Trust
Royal Commission for the Exhibition of 1851
UN Environment Programme Climate and Clean Air Coalition
Welsh Government Tech Valleys Programme
Worshipful Company of Engineers

Support from our Fellows, friends, awardees, and Academy staff**Major donors**

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Maria Dramalioti-Taylor
Sir Peter Gershon CBE FREng
Sir John Parker GBE FREng
Dr Tony Trapp MBE FREng

With additional thanks to donors who wish to remain anonymous.

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With additional thanks to donors who wish to remain anonymous.

DONORS TO THE QUEEN ELIZABETH PRIZE

The Queen Elizabeth Prize for Engineering is run by a charitable company limited by guarantee and called The Queen Elizabeth Prize Foundation, which manages the prize and its funding.

The Queen Elizabeth Prize for Engineering was funded by generous support from the following corporate donors:

BAE Systems
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The Engineers gallery at the Science Museum is funded by generous support from the following donors:

Professor Frances Arnold FREng FRS
Professor Andrew Blakers
Professor Mary Boyce
John Browne Charitable Trust
Dr Jean-Lou Chameau and Dr Carol Carmichael
Professor Eric Fossum and family
Siemens UK
Surgo Foundation US
Dr Aihua Wang
Dr Jianhua Zhao

With additional thanks to donors who wish to remain anonymous.

Events highlights 2023/24

April

- Emeritus Fellows' Lunch, London
- Innovation Incoming: an expert panel on technology and the future, London and hybrid
- Northeast Regional Event, Newcastle
- Academy CAFÉ: early career recruitment, online
- Chairs in Emerging Technologies annual dinner, York

May

- Fellows' Day, London
- Hinton Lecture, London and online
- Enterprise Hub Spring Showcase, London
- Technical briefing: using hydrogen in aviation, online
- Awardee Excellence Community Inaugural Event, London, Glasgow, Belfast, Sheffield and online

June

- Africa Engineers conference, Zimbabwe
- INWED Leadership lunch: Make safety seen
- Royal Academy of Engineering and GBx Global – fireside chat and drinks, London

July

- Fireside chat: Perspectives – can technology be society's great equaliser?, London and online
- Frontiers symposium: Digital futures – infrastructure for equity, inclusivity, sustainability, India
- Africa Prize for Engineering Innovation final, Ghana and online
- Awards Dinner, London
- Critical conversations: Quantum: a critical technology for a critical time?, online

September

- Critical conversations: Semiconductors – a critical technology for a critical time?, online
- Systems Change Lab: Global responsibility in engineering higher education, London
- Critical conversations: Engineering biology – a critical technology for a critical time?, online
- This is Engineering Reception: the demand for alternative routes into education, London

October

- Innovation Incoming: clean energy technology for the future
- Engineering Leaders Scholarships conference, London
- Technical briefing: sustainable chemicals, online
- Annual Engineering Economy CEOs lunch, Belfast
- Heritage Society lunch, London
- Policy Fellowships showcase, London
- Bhattacharyya Award Prize Ceremony, Birmingham
- Black History Month Leadership lunch: celebrating our sisters, London

November

- Enterprise Hub Gala Dinner, London
- President's Reception for the Engineering Profession, London
- Academy CAFÉ: climate-resilient infrastructure, online
- Critical conversations: Future telecommunications – a critical technology for a critical time?, online
- Technical briefing: bringing the world together to kickstart a clean new industrial era, online
- New Fellows' Briefing and Dinner, London
- Visiting Professors conference, Birmingham
- Enterprise Hub Winter Showcase, London

December

- Engineering Review of the Year, online
- What does the future hold for UK spinouts?, online
- Lord Bhattacharyya Engineering Engagement Programme Celebration, Coventry

January

- Critical conversations: Artificial Intelligence – a critical technology for a critical time?, online
- Bilateral UK-India Green Hydrogen Exchange, India
- Africa Prize 10th Anniversary Celebration, London

February

- Frontiers symposium: navigating the water-energy-food-environment nexus for climate resilient and inclusive futures, Jordan
- Queen Elizabeth Prize for Engineering announcement, London

March

- Academy CAFÉ: Horizon Europe funding, online
- Diversity and inclusion annual conference, London and online
- Engineers 2030: Rethinking engineering and technology skills for the 21st century, London and online
- Technical briefing: From 'smart dust' monitoring to energy from space – what are the next innovative advances in space technology?, online

To find out more and catch up on some of these events, please visit www.raeng.org.uk/events

Talent and diversity

- **AMAZON FUTURE ENGINEERS BURSARY** – supports women A-level and BTEC/OCR (or Scottish equivalent) students from low-income households who wish to study computer science or related engineering courses at university.
- **DISTINGUISHED INTERNATIONAL ASSOCIATES** – supports international engineers at the cutting edge of engineering research or innovation seeking to intensify existing collaborations or connections to the UK.
- **DIVERSITY IMPACT PROGRAMME** – addressing the unequal outcomes experienced by students from underrepresented groups.
- **ENGINEERING LEADERS SCHOLARSHIPS** – funds ambitious engineering undergraduates to undertake an accelerated personal development programme to move into a leadership position soon after graduation.
- **GLOBAL TALENT VISA** – endorses talented and promising individuals in specific sectors to live and work in the UK freely.
- **GRADUATE ENGINEERING ENGAGEMENT PROGRAMME** – increasing the transition of engineering graduates from diverse backgrounds into engineering employment.
- **GREEN FUTURE FELLOWSHIP** – provides funding and support to leading researchers and innovators to develop practical, breakthrough technologies and climate change solutions to achieve net zero.
- **INCLUSIVE LEADERSHIP PROGRAMME** – building a network of champions and growing inclusive practice and leadership in the engineering industry.
- **LORD BHATTACHARYYA ENGINEERING EDUCATION PROGRAMME (LBEEP)** – provides funding to programme schools/colleges in the West Midlands to enhance and enrich the E in the STEM curriculum.

- **LBEEP HIGHER EDUCATION BURSARIES** – supporting A-level and BTEC/OCR students from low-income households in the West Midlands who wish to study engineering or related courses at university.
- **LBEEP INDUSTRIAL SECONDMENTS** – upskilling college practitioners with real-world engineering practices/developments to inform their classroom teaching.
- **MSC MOTORSPORT SCHOLARSHIPS** – supports undergraduates from Black or mixed Black ethnic backgrounds who wish to study a master's degree in motorsport (or related eligible course).
- **NORTHERN IRELAND ENGINEERING EDUCATION PROGRAMME** – provides funding to programme schools/colleges in Northern Ireland to enhance and enrich the E in the STEM curriculum.
- **RESEARCH FELLOWSHIPS** – awarded to outstanding early-career researchers from all branches of engineering who have a PhD awarded in the last four years.
- **RESEARCH INTERNSHIPS SCHEME** – places undergraduate students from a socio-economically disadvantaged background with Academy-supported researchers.
- **SAFETY CHAMPIONS IN ENGINEERING EDUCATION** – provides funding and support to engineering educators from low- and middle-income countries who have high potential for leadership to educate safer, more innovative engineers where they are most needed.
- **SAINSBURY MANAGEMENT FELLOWSHIPS** – aims to enhance the capability of the UK engineering industry by providing grants to young engineers with leadership qualities so that they can undertake an MBA course at a leading international business school.
- **SIR RALPH ROBINS SCHOLARSHIP** – awarded to three individuals each year who meet the criteria for an Engineering Leaders Scholarship and come from a low socio-economic or underrepresented background.

- **UK INTELLIGENCE COMMUNITY POSTDOCTORAL RESEARCH FELLOWSHIPS** – two-year fellowships funded by the Government Office for Science to promote unclassified basic research in areas of interest to the intelligence, security and defence community.
- **VISITING PROFESSORS** – uses the experience of Visiting Professors (with backgrounds as industrialists, entrepreneurs, consultants, or innovators) to enhance teaching and learning as well as the employability and skills of UK engineering degree students while strengthening external partnerships with industry.

Innovation

- **AFRICA CATALYST** – aims to strengthen professional engineering bodies in sub-Saharan Africa so that they can effectively promote the profession, share best practice and increase local engineering capacity to help drive development.
- **AFRICA PRIZE FOR ENGINEERING INNOVATION** – provides commercialisation support to African innovators developing scalable engineering solutions to local challenges.
- **APEX AWARDS** – in partnership with the British Academy and the Royal Society, and with the support of The Leverhulme Trust, the APEX Awards (Academies Partnership in supporting Excellence in cross-disciplinary (X) research) aim to demonstrate how researchers from different disciplines sharing a common vision can come together to generate creative and innovative solutions that will benefit wider society.
- **CHAIRS IN EMERGING TECHNOLOGIES** – provides long-term support of up to 10 years to global research visionaries to lead on developing emerging technology areas with high potential to deliver economic and social benefit to the UK.

- **ENTERPRISE FELLOWSHIPS** – provides equity-free funding, ongoing support, and expert mentorship to help entrepreneurial academics build the skills and confidence they need to maximise the success of their spinout venture.
- **EXPLORE** – provides funding and support to Enterprise Hub alumni who are deep-tech founders interested in market expansion.
- **FRONTIERS SEED FUNDING** – supports new interdisciplinary collaborative pilot projects between groups of two or more attendees of the Frontiers symposia. The projects are then eligible for follow-on funding, which provides support to scale up into fully formed collaborative research projects.
- **FRONTIERS CHAMPIONS** – supports Frontiers alumni who want to convene global and regional networks of their peers aimed at tackling global challenges.
- **HIGHER EDUCATION PARTNERSHIPS IN SUB-SAHARAN AFRICA** – supports universities in sub-Saharan Africa to form and strengthen relationships between academia and industry.
- **INDUSTRIAL FELLOWSHIPS** – enables mid-career academics and industrialists to undertake a collaborative research project in either an industrial or academic environment, where one party would host the other.
- **LEADERS IN INNOVATION FELLOWSHIPS GLOBAL** – aimed at researchers from emerging economies who have an innovation that helps address their country's development needs, and offers an intensive two weeks of entrepreneurship training and mentoring to help them commercialise their innovation.
- **LEADERS IN INNOVATION FELLOWSHIPS ADVANCE** – a bespoke, focused programme of relationship-building and business growth activities, which is open to alumni of the LIF programme.

- **LEADERS IN INNOVATION FELLOWSHIPS COMMUNITY** – supports the continuous journey of international entrepreneurs turning their engineering innovations into impactful, sustainable businesses.
- **LEVERHULME TRUST RESEARCH FELLOWSHIPS** – provides mid-career engineers working in UK academic institutions with the opportunity to focus on research activities for a period of up to a year, while giving a more junior academic the opportunity to gain valuable teaching experience.
- **REGIONAL TALENT ENGINES** – supports early-stage founders to transform their engineering ideas into a startup pitch.
- **RESEARCH CHAIRS** – provides funding, together with industry and other research organisations, to support strategically important research in UK universities. The Academy provides funding for an initial period of five years.
- **SENIOR RESEARCH FELLOWSHIPS** – provides funding for lecturer/reader-level appointments. Fellowships are funded jointly with industry for a period of five years.
- **SCHOTT SCALE UP ACCELERATOR** – provides funding and support to high-growth SME senior leaders with leadership skills and insight.

Policy and public engagement

- **ENGINEERING SKILLS WHERE THEY ARE MOST NEEDED IMPACT GRANT** – funds projects that develop domestic engineering capability to build, operate and maintain critical engineering infrastructures safely and/or develop engineering capacity and skills needed most to adopt emerging technologies safely.
- **INGENIOUS** – provides opportunities for engineers to take part in public engagement activities.
- **POLICY FELLOWSHIPS** – inspires policymakers to think differently and to use engineering and systems thinking to frame complex problems and design resilient solutions.
- **SAFER END OF ENGINEERED LIFE CHAMPIONS** – supports individuals and organisations who are working on urgent challenges relating to safety at end of engineered life and who have the capacity to affect wider change by improving their visibility and impact.
- **SYSTEMS APPROACHES IN GOVERNMENT PROGRAMME** – supports policymakers to navigate complex challenges by applying systems approaches underpinned by engineering expertise.
- **TRANSFORMING SYSTEMS THROUGH PARTNERSHIP** – catalyses partnerships between universities, large companies, SMEs and startups to address sustainable development goals.

To find out more about our programmes, please visit www.raeng.org.uk/programmes-and-prizes

- **MACROBERT AWARD** – the UK's longest-running and most prestigious national prize for engineering innovation. The presentation of the Award recognises outstanding innovation coupled with tangible societal benefit and proven commercial success.
- **BHATTACHARYYA AWARD** – annual award to celebrate collaboration between academia and industry, recognising the team or teams who best show how industry and universities can work together.
- **COLIN CAMPBELL MITCHELL AWARD** – awarded to an engineer or small team of engineers who have made an outstanding contribution to the advancement of any field of UK engineering.
- **MAJOR PROJECT AWARD FOR SUSTAINABILITY** – awarded to a team that has played a critical role in a major engineering project that has had substantial impact on society in any branch of engineering.
- **PRESIDENT'S MEDAL** – awarded to an Academy Fellow who has greatly contributed to the Academy's work and aims.
- **PRINCE PHILIP MEDAL** – awarded biennially to an engineer of any nationality who has made an exceptional contribution to engineering through practice, management or education.
- **PRINCESS ROYAL SILVER MEDALS** – awarded to an early- to mid-career engineer for outstanding personal contribution to UK engineering resulting in market exploitation.
- **ROOKE AWARD** – awarded to an individual, small team or project that has contributed to the Academy's aims and work through their initiative in promoting engineering to the public.
- **RAENG ARMOURERS AND BRASIERS COMPANY PRIZE** – awarded biennially to an individual, for excellence in materials engineering.
- **RAENG ENGINEERS TRUST YOUNG ENGINEERS OF THE YEAR** – recognises the potential of younger UK engineers, who have demonstrated excellence in the early stage of their career.
- **SIR GEORGE MACFARLANE MEDAL** – awarded to the overall winner of the RAEng Engineers Trust Young Engineer of the Year.
- **SIR FRANK WHITTLE MEDAL** – awarded to an engineer for outstanding and sustained achievement in any engineering discipline.

To find out more about Academy awards and prizes, please visit: www.raeng.org.uk/programmes-and-prizes

The Royal Academy of Engineering is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone. In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation and building global partnerships, and influencing policy and engaging the public.

Together we're working to tackle the greatest challenges of our age.

What we do

TALENT & DIVERSITY

We're growing talent by training, supporting, mentoring and funding the most talented and creative researchers, innovators and leaders from across the engineering profession.

We're developing skills for the future by identifying the challenges of an ever-changing world and developing the skills and approaches we need to build a resilient and diverse engineering profession.

INNOVATION

We're driving innovation by investing in some of the country's most creative and exciting engineering ideas and businesses.

We're building global partnerships that bring the world's best engineers from industry, entrepreneurship and academia together to collaborate on creative innovations that address the greatest global challenges of our age.

POLICY & ENGAGEMENT

We're influencing policy through the National Engineering Policy Centre – providing independent expert support to policymakers on issues of importance.

We're engaging the public by opening their eyes to the wonders of engineering and inspiring young people to become the next generation of engineers.

Royal Academy of Engineering
Prince Philip House
3 Carlton House Terrace
London SW1Y 5DG

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