Royal Academy of Engineering

Annual Report and Accounts

2019|2020

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

Front cover photo:
Mechanical engineer Chris Caulcrick is a researcher at Imperial College London, developing robotic exoskeletons, which combines his passion for cutting-edge tech and gadgets with his desire to help people. Captivated by robots, gadgets and technology from a young age, but not knowing how his passion could be turned into a career that he'd enjoy, Chris is now a protagonist for the *This is Engineering* campaign

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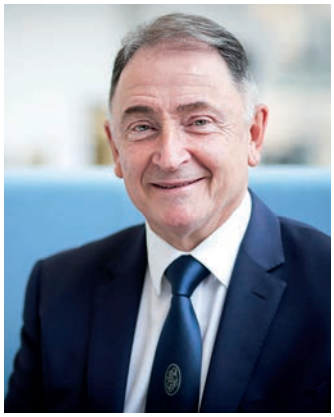
View the online version of the Annual Report and Accounts, along with the full Annex, at:
www.raeng.org.uk/publications/strategy-and-finance

Foreword



The last financial year has been a year of great change for the Academy, and for the society that we serve. At the outset of the year, Theresa May was the UK's Prime Minister, Notre Dame was still standing, and all Academy staff were based at Prince Philip House. We were gearing up to host events in London, Nottingham, Glasgow, Brighton, Uganda, Mexico, and Malaysia in the months ahead. The Academy was led by Professor Dame Ann Dowling OM DBE FREng FRS who, over her five-year tenure, brought enormous energy to the Academy's activities, contributing in particular to the development of the Enterprise Hub, *This is Engineering* campaign, Dowling Review, and National Engineering Policy Centre.

Since then, the UK has held its third election in five years and left the European Union. The world has been confronted by the biggest public health crisis of our time, public protests against inequality have grown in strength and fervour, and the threat posed by climate change looms ever larger. Against this backdrop the Academy has continued to deliver an ambitious set of activities that advance engineering's contribution to society, and has adapted and responded to the challenges and opportunities posed by the external environment.

There has been much to celebrate. Over the course of the year we have marked several important anniversaries. The 50th anniversary of our flagship award for engineering innovation, the MacRobert Award, was marked at a special awards dinner at Banqueting House and a reception at St James's Palace in July, as well as by an exhibition of photography of the award winners, and the development of a set of engineering innovation stamps by the Royal Mail. Our Africa Prize for Engineering Innovation, Africa's biggest prize of this kind, marked its fifth year, as did our Leaders in Innovation Fellowships programme.

In July 2019, the Academy won the race equality award at Business in the Community's Responsible Business Awards for our Graduate Engineering Engagement Programme (GEEP). Delivered in partnership with engineering employers and SEO London, with support from the Association for Black and Minority Ethnic Engineers UK, it has reached over 800 students, of whom 28% are female and over 90% are from Black, Asian and minority ethnic (BAME) backgrounds.

In a complementary effort to encourage more young people from all parts of society to consider a career in engineering, we held our first *This is Engineering Day* in November 2019 to build on our *This is Engineering* campaign, which has attracted nearly 45 million video views. The day was created to challenge narrow and outdated stereotypes of what engineers do and look like, as well as celebrate the role that they play in society today. Over 150 organisations signed a pledge to improve the visibility of more representative images of engineers, including the BBC, ITV and Facebook.

The Academy has led a diversity and inclusion programme for the profession for the last decade, but there is so much more to be done. It is clear that our community has not made sufficient progress thus far on diversity and inclusion and we are determined to play our part in changing that. As well as scaling up our externally facing programmes, we need to continually improve our own performance, and it is in this spirit that we have just launched our Fellowship Fit for the Future initiative.

Alongside efforts to address some of the biggest challenges the engineering profession faces, over the last year we have been applying the expertise of our profession to some of the biggest challenges faced by society. In September 2019, the Academy brought together inspirational leaders with over 700 of the next generation of engineers, entrepreneurs, and policymakers at the Global Grand Challenges Summit 2019. The conference launched the second series of summits jointly hosted by the UK, US and Chinese academies of engineering, and debated the role of engineering in an unpredictable world; one day focused on AI and transformational technologies, and another on sustainability in the face of population growth.

International partnerships are critical to addressing such challenges, and so the following month, the Academy and Lloyd's Register Foundation launched a new £15 million international collaboration that brings together engineers and innovators across the world to tackle the most pressing engineering, safety and sustainability problems. Engineering X seeks to address challenges including improving the safety of complex systems, and end of life and decommissioning practices.

Our National Engineering Policy Centre (NEPC), which celebrated its first birthday at the beginning of 2020, is

playing a growing role in ensuring that policymakers have access to the engineering expertise needed to find solutions to complex policy issues, including decarbonisation. The NEPC has assembled a diverse group of experts – including from the Institution of Mechanical Engineers, Institution of Engineering and Technology, Institution of Chemical Engineers, Energy Institute, and British Academy – to offer ongoing, evidence-based advice to the UK government on how to achieve its ambition of net zero greenhouse gas emissions by 2050.

Of course, we cannot talk about global challenges without mentioning COVID-19. While its effects were most intensely felt in the UK after the close of the 2019–20 financial year, its lasting impact on the Academy's activities means that it is right we should reflect on our response in this review. The pandemic called for rapid innovation to protect lives and livelihoods across the globe, and we responded to that call with a cross-Academy Positive Response programme to facilitate the contribution of engineers to the pandemic response. From providing advice to government, to funding and supporting African engineering entrepreneurs to develop PPE, we have sought to play our part in mobilising the global engineering community. More information on how we are managing and mitigating the effects of the pandemic can be found opposite.

As the financial year drew to an end, and following the change in President at the end of September, we launched our strategy for the next five years. The recent progress made by our Academy has allowed us to be more confident in our aspirations to increase our impacts on society, the economy and the engineering profession. The strategy sets out an ambitious overarching goal to harness the power of engineering to build a sustainable society and an inclusive economy that works for everyone. We hope you will see from the impact of our work in the past financial year that we are well positioned to work towards this goal, and that you will be inspired to join us in this endeavour: we will only be able to deliver on this with the support and partnership of our Fellows and friends.

2019–20 was a year of great change, not only for the world around us, but also for the Academy's capacity to serve as a progressive force in engineering that delivers tangible, meaningful benefits to society.

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

Dr Hayaatun Sillem CBE
CEO, Royal Academy of Engineering

Response to COVID-19

This annual report must begin with a summary of the risks that COVID-19 poses to the Academy and the actions we have taken, and are taking, to get through the pandemic. As well as affecting the Academy financially, it has impacted on our operation and use of Prince Philip House as a venue. However, we have also responded proactively to help coordinate the engineering community's contribution to addressing the pandemic and many of the Academy's activities have been able to continue, albeit with changes made to delivery models in many cases.

Finance and operations

The COVID-19 outbreak and associated measures the government has put in place to tackle it have significantly affected the Academy's ability to raise funds from corporate partners and reduced the income that we can expect from our trading subsidiary, RAE Trading Limited.

Since the initial impact of the outbreak in March, we have continued to engage with prospective corporate partners, but our priority has been maintaining existing valued relationships. As a result, some activities that are reliant on corporate funding, for example *This is Engineering*, have had to be adapted to take account of budgetary restrictions. We have examined our cost basis and taken prudent measures to make savings to offset the decline in revenue.

In contrast, we have experienced an uplift in individual giving and philanthropy through personal donations from Fellows responding to specific Academy projects – particularly those relating to the COVID-19 response. Engineering's role in managing the pandemic will shape how we make a case for financial support, so the Academy's development team is working to capture examples of the role undertaken by the Academy and Fellows during this period.

As Prince Philip House has been closed to staff and visitors since 20 March, the pandemic has severely disrupted the Prince Philip House events business run through our trading subsidiary, RAE Trading Limited. Requests for cancellations and postponements of events escalated dramatically during March and new bookings ground to a halt at the same time. We have worked closely with clients who had existing bookings to reschedule their events, prioritising customer retention rather than enforcing financial penalties of cancellation clauses. We have worked closely with our catering business partner, CH & Co, to reduce costs and plan for the safe return of visitors and events to Prince Philip House.

All Academy staff have the ability and tools to work from home securely and our IT support and infrastructure has coped extremely well, enabling a successful transition. We have worked closely with our cleaning and security suppliers to ensure cost savings are flowing to the Academy for the reduced levels of service but their staff are being treated fairly.

Our priority in the decisions we have taken and the planning we are doing is the safety of our staff, stakeholders and visitors to Prince Philip House.

Going Concern Policy (No material uncertainty)

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 coronavirus pandemic has, however, had a significant impact on the Academy, and in particular on our ability to operate in a normal manner at Prince Philip House.

The Academy's senior management team monitors the group and charity's cash position monthly 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 several possible scenarios regarding the coronavirus pandemic and its impact on the wider economy, including using reverse stress testing. In doing so, we have particularly considered the impact of a global economic recession that results in austerity measures and the charity's government funding being reduced over and above our key risk assumptions (set out in the Financial Review – page 22).

Based on these forecasts, we believe that the going concern basis of accounting remains appropriate for our accounts. We have also considered whether there is any material uncertainty that may cast significant doubt over the use of that basis for a period of at least 12 months from the date of approval of the financial statements and we do not believe that this is the case.

RAE Trading Limited derives its income from catering and hospitality activities at Prince Philip House. Due to the various government-imposed actions to combat the COVID-19 pandemic, these activities have ceased until further notice, which has had a significant impact on the company's projected income for the next 12 months.

While there is a significant demand for the company's services to resume after lockdown, continued social distancing measures and the potential of a 'second wave' could affect expected demand and could result in a cash flow shortfall. Under current projections financial support will not be required from the Royal Academy of Engineering, but in the event that financial support was required to sustain operations, the Trustees would consider such a need as it arises. These conditions indicate that there is a material uncertainty that may cast significant doubt about the ability of the company to continue as a going concern. However, there is a high level of confidence that all necessary support will be provided if required and therefore RAE Trading Limited is a going concern.

The Queen Elizabeth Prize for Engineering Foundation derives its income from donations and investment income. The COVID-19 pandemic led to a £2 million unrealised loss on investments prior to 31 March 2020, which has had a significant impact on the Foundation's net assets. However, the Trustees have determined that there is sufficient cash, short-term deposits and investments held by the Foundation to pay its contractually committed expenditures for the next 12 months. As a result, a material uncertainty does not exist that the Foundation will have sufficient funds to weather the impact of COVID-19 and continue as a going concern for the foreseeable future and continues to adopt the going concern basis in preparing the financial statements.

Subsequent to year end, the Foundation's managed investment funds have returned to the levels of December 2019 and are sufficient to support the awarding of the Queen Elizabeth Prize for Engineering for many more cycles.

Activities

Many Academy events have been postponed or are being hosted virtually. In addition, a series of new online events was developed to maintain engagement with critical audiences and amplify our positive response to COVID-19. These included *Innovation in a crisis*, an online Q&A series highlighting the different ways the engineering profession is responding to the pandemic, Enterprise Hub pitch live and a STEM education policy webinar series. The circumstances have necessitated the rapid development of digital events knowledge and skills, and updates to all event planning processes.

Many activities carried out by our education and programmes teams have continued with minimal disruption. Education programmes have been converted to online equivalents wherever possible. In response to

schools shutting down, a new STEM at home section of the website has been created to support parents who are home schooling and teachers who are providing online activities for children, giving them access to our most practical, hands-on activities for young learners.

We are supporting awardees however we can. All Enterprise Hub programme activities have been fully maintained. Training modules are now being delivered online, as well as a webinar series focusing on three core areas: business resilience, funding, and people and culture. This series is available to all engineering and technology entrepreneurs in the UK, not just Hub members. A resources page has been added to the Hub microsite with useful links for business support, funding opportunities, working practices and wellbeing. In cases where applicants for awards are personally involved in the COVID-19 responses, we are making sure that they are not disadvantaged in any way, by delaying decisions on their applications or extending awards as appropriate.

Our international activities have experienced significant impact because of COVID-19. Inevitably, travel bans and health and safety considerations have disrupted planned international meetings and training sessions. Many activities can be delivered via an alternative digital delivery model, which leads to some changes in the activity plan and spend profile but gives most of the same benefits and similar overall costs.

More generally, the planned transition to digital events and engagement, and more use of digital systems internally, have been accelerated as a result of the pandemic, to our benefit.

Proactive response

At the start of lockdown, the Academy launched a cross-Academy Positive Response programme to support the contribution that engineering and engineers can make to tackling the challenges associated with COVID-19. The programme covers three areas: brokerage; policy advice and expertise; and funding and support through grant and delivery programmes.

Our first action was to ask Fellows, awardees and partners to help identify ideas, innovations, facilities, and skills that could help the pandemic response, and we received almost 600 submissions. The ideas with the greatest potential were supported through Academy networks in industry, academia and government, which included volunteering offers from more than 1,000 respondents to be auxiliary engineers for field hospitals. Through our policy department, we have been supporting government with engineering advice. Drawing on the expertise across the National Engineering Policy Centre, our policy team has provided inputs to the Scientific Advisory Group for Emergencies on topics such as ventilation and hospital-acquired infection. The Positive Response programme has also rapidly collated engineering evidence on PPE manufacturing and reuse, supply chain challenges, and research and development investment for high-tech startups.

Alongside the reactive work, the Academy has been identifying longer-term risks and issues highlighted by the pandemic, including through a paper addressing infrastructure interdependencies, the role of research and development investment in securing the future of the UK knowledge economy, and opportunities to learn from this crisis for future resilience.

Internationally, our Sustainable Development team is currently working on Project CARE (COVID-19 African Rapid Entrepreneurs), which is supporting engineering entrepreneurs to make and supply PPE for healthcare facilities in sub-Saharan Africa. The Engineering X collaboration, founded in partnership with the Lloyd's Register Foundation, has launched a new Pandemic Preparedness programme in response to COVID-19, drawing on Global Challenges Research Fund and Investment in Research Talent support. This focuses on understanding the role of engineers in response to the global crisis and funding highly innovative, engineering-centred research and/or innovation proposals that aim to tackle the most pressing challenges created by the COVID-19 pandemic. It will be informed by insights from the current crisis to build our future pandemic resilience. The International Partnerships team has also hosted a set of video seminars involving 20 national academies of engineering to build networks of excellence and share knowledge and expertise about engineering responses to COVID-19, and to identify areas where the international engineering community can add value.

The world is tackling the biggest public health crisis of our time, a pandemic that has called for rapid innovation to protect lives and livelihoods across the globe. While its impact on the global economy requires us to be prudent, there has never been a more urgent need for engineering expertise to inform public debate and provide workable solutions to our shared challenges, and we expect Academy activities to continue to respond to the medium and longer term needs created by the pandemic. The relevance of our role in the context of COVID-19 reinforces our commitment in our new strategy to promote engineering in the service of society.

Over the past five years, with the Academy's support, encouragement, leadership, and expertise:

450,000 school students have engaged with STEM learning activities

More than **800 engineers** have advanced their careers with training and education opportunities, and **over 250** have taken part in exchanges between academia and industry

100 UK entrepreneurs have created over **80 startups** and almost **600 jobs**

Over **1,000 innovators** across **25 countries** have received help to commercialise their research

Over **300 researchers** have received funding and mentoring and more than **700 university-industry collaborations** have taken place all over the world

43 professional engineering organisations, representing **450,000 engineers**, have come together to apply engineering expertise to the issues that matter through the National Engineering Policy Centre

90 engineering employers have worked to improve diversity and inclusion in their workplaces

Over **250 students** from underrepresented groups have transitioned into engineering employment

For every **£1 invested**, Research Chairs have attracted almost **£20 from other funders**

Enterprise Hub members, Africa Prize awardees and Leaders in Innovation Fellows have raised more than **£180 million** in follow-on funding combined

Research Fellow Dr Alex Dickinson

Innovation

The Academy invests in some of the UK's most creative and exciting engineering ideas, innovators, founders, and business leaders to create wealth, employment and benefit for society. This is most evident through our Enterprise Hub, which supports 127 early-stage entrepreneurs and 74 leaders of SMEs with training, mentoring and funding. With our support, these innovators have gone on to create almost 600 skilled jobs and have raised more than £133 million in follow-on funding to grow their businesses.

One such entrepreneur is Dr Simon Thomas, CEO of Paragraf, and an

We currently support over 220 researchers in the UK and our annual research programmes budget last year was circa £16 million

alumnus of the Hub's SME Leaders programme, who raised £12.8 million in September for his graphene company – a record fundraise for an Enterprise Hub member. Paragraf has developed a proprietary method to reproducibly deliver functionally active graphene, the missing link to developing high quality graphene-based technologies. This breakthrough is expected to finally enable graphene electronic devices to be realised at a commercially viable scale.

The Academy's research programmes also continue to invest significantly in world-leading researchers and facilitate strategic partnerships with industry. Over the past year, the programmes – including Chairs in Emerging Technologies, Research Chairs and Senior Research Fellowships, and Industrial Fellowships – have granted new awards to over 65 engineering researchers to carry out work ranging from the development of digital technologies and smart infrastructure to manufacturing, robotics and healthcare engineering.

The contribution of exceptional engineering research to society has been particularly thrown into the spotlight recently as several Academy-funded researchers have led engineering projects in response to the COVID-19 pandemic. Chair in Emerging Technologies Professor Tim Denison was part of a University of Oxford team that created a prototype for OxVent, a simple and scalable design put together in less than a fortnight, and conceived as an open source, not-for profit ventilator. Meanwhile, Research Fellows Dr Joseph Sherwood and Dr Alex Dickinson both responded to the crisis in a similar way, creating open-source designs and prototypes for an emergency ventilator and respirator, respectively.

In 2019, the Academy evaluated several of its research programmes to determine their long-term impact in relation to participants' careers and contributions to engineering research and industry. Most respondents were very positive about their experience of the schemes citing the benefits of mentoring from the Fellowship, new knowledge of current industrial practices enhancing their teaching, the impact on career progression, and sustaining partnerships with industry: 76% of Research Chairs/ Senior Research Fellows said their experience was very positive, as did 82% of Research Fellows and 80% of Industrial Fellows.

The Academy's focus on bringing the world's best engineers from industry, enterprise and academia together to address challenges isn't just limited to the UK. Funded by the Newton Fund and Global Challenges Research Fund (GCRF), international programmes and awards such as Frontiers of Engineering for Development, Leaders in Innovation Fellowships (LIF), Africa Catalyst, Higher Education Partnerships in sub-Saharan Africa (HEP SSA), and the Africa Prize for Engineering Innovation support exceptional researchers and innovators from across the world.

In 2019, the Africa Prize, which is supported by the Shell Centenary Scholarship Fund, celebrated its fifth anniversary. Since it was established, it has supported 72 African businesses that have gone on to raise $14 million in grants and equity. More than 60% of alumni ranked the Africa Prize as the most valuable programme they had participated in: 71% of the prize's alumni are still generating revenue and their innovations are projected to impact over three million lives in the next five years. Similarly, in 2020 the LIF programme celebrates five years since its inception. Over 700 researchers across 16 countries have benefited from training and support to help them commercialise innovations that address development challenges.

Africa Prize supported startup, Standard Microgrid

International partnerships

The Academy's international partnership activities stimulate innovation to address shared, global challenges, by bringing people together and facilitating collaboration and knowledge exchange. In September 2019, the Academy hosted the two-day Global Grand Challenges Summit in partnership with Accenture. The theme, *Engineering in an Unpredictable World*, highlighted the role that the global engineering profession needs to play in meeting two of the most serious challenges humanity faces: how to ensure global sustainability in the face of a growing population and accelerating climate change; and how AI and other transformative technologies can be used for the benefit of humanity. Among the 51 speakers were HRH The Princess Royal KG KT GCVO QSO, Lord Martin Rees Kt OM HonFREng HonFMedSci FRS, Dean Kamen, Dame Henrietta Moore FBA and young US inventor Gitanjali Rao.

The summit was attended by over 700 guests from 30 countries, including more than 300 students from some of the world's leading engineering universities. The event was also livestreamed globally and accompanied by six satellite summits in India, Kenya, Mexico, Thailand, Uganda, and Vietnam, which ensured that thousands more people could be engaged in discussions.

Hot on the summit's heels, the Academy launched Engineering X in October. Engineering X is an international collaboration that brings together some of the world's leading problem-solvers to engineer change. Founded in partnership with the Lloyd's Register Foundation, which provides £15 million of funding, and with additional support from the government's Newton Fund, it is creating a global network of engineers, academics, innovators, governments and business leaders to address the great challenges of our age.

"I have been inundated with requests for information on my business since the Africa Prize promotion started. I feel I shall always be indebted to the Royal Academy of Engineering."

Africa Prize alumnus

Participants in the Graduate Engineering Engagement Programme

We won Business in the Community's Race Equality Award for our engineering-wide programme to increase the transition of engineering graduates from diverse backgrounds into engineering employment. The Graduate Engineering Engagement Programme has supported more than 800 students; 28% of whom were female, 91% of whom were from Black, Asian and minority ethnic backgrounds, and 81% of whom attended non-Russell Group universities.

Skills and diversity

The UK is not producing enough high-quality engineers and technicians to meet its needs, and the engineering profession does not adequately represent the diversity of the UK population. Both are persistent problems that the Academy is working to address: a diverse and resilient engineering profession is needed to shape an inclusive and sustainable future.

Our diversity and inclusion (D&I) programme continues to work with engineering employers and professional engineering institutions to attract and retain people from

The Engineering Leaders Scholarships programme received a record number of applications in 2019. We awarded 38 scholarships to engineering students from 20 universities, 48% of whom were women. Three Sir Ralph Robins Scholarships were awarded to individuals from underrepresented and underprivileged backgrounds

diverse backgrounds and to build a profession that is more reflective of the society it seeks to serve.

In early 2020, the Academy launched its *Closing the engineering gender pay gap* report, which analysed the pay data of nearly 42,000 engineers in the UK. The research found that although the gender pay gap is smaller in the engineering profession than the UK employee average, closing it will take concerted effort. The report also confirmed that underrepresentation of women in senior roles – rather than unequal pay – is the single largest cause of the gender pay gap for engineers. Just 9% of engineers in the top career grade in the sample were female, and women accounted for only 8% of those in the upper pay quartile.

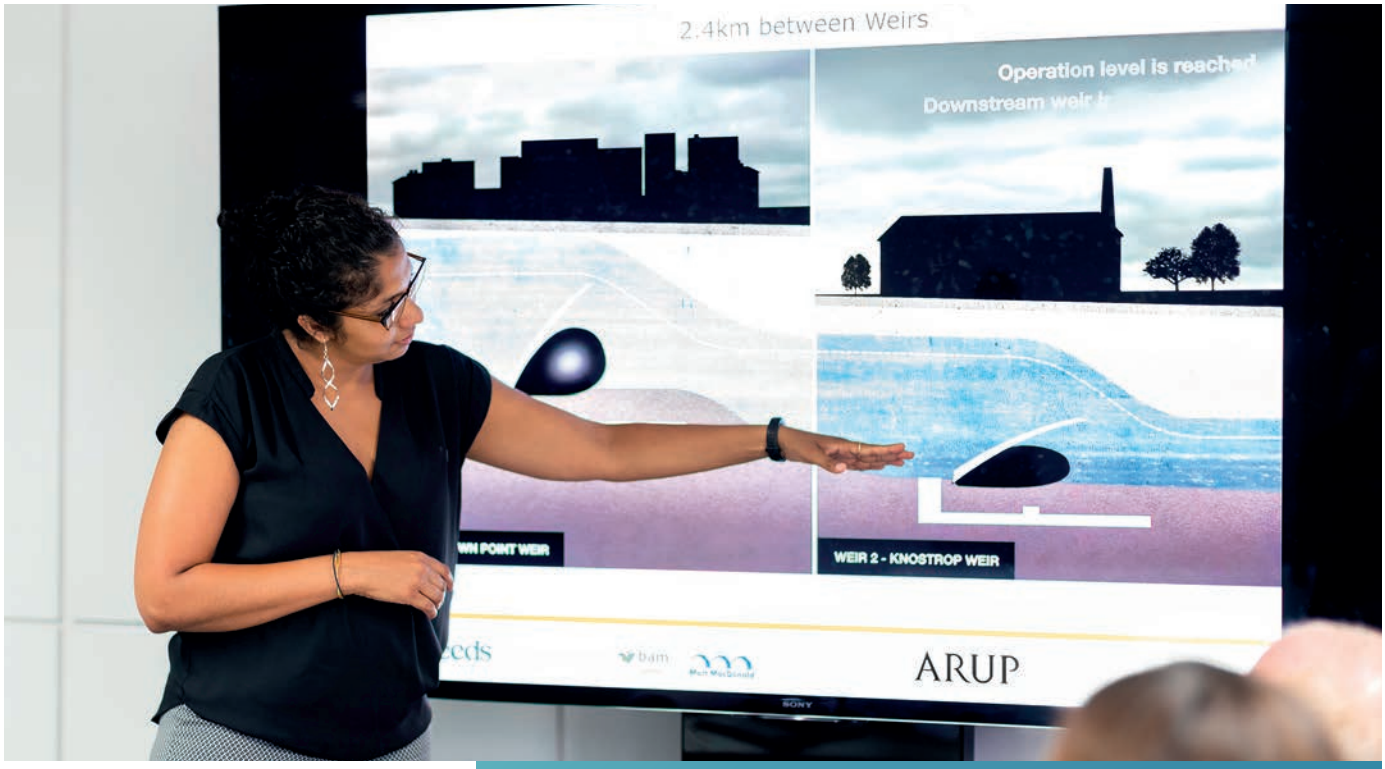
The report recommends actions that address the retention and progression of women to more senior and higher paid roles, for engineering employers, specifically CEOs and senior executives, HR or pay and reward personnel, and line managers. The Academy also produced a list of questions that all board members should ask to see how seriously their organisation takes tackling gender balance. Academy Fellows and others in senior executive or board roles were encouraged to use these questions to interrogate their companies' progress on achieving gender balance and contribute to a real step-change on this issue.

Academy education projects have worked with hundreds of schools, colleges and educators to strengthen the quality of engineering education and inspire and motivate young people from all backgrounds to study STEM subjects and take up careers in engineering.

A large part of the Academy's support for STEM teachers includes engineering-based, curriculum-linked STEM learning and teaching resources that bring real-world engineering into the classroom. In the summer of 2019, the Academy worked with INTO Film to develop an educational resource for primary schools based on *Wonder Park,* a computer-animated adventure film about a theme park. The resource explores the engineering feats that go into building a theme park and uses that excitement to enhance their knowledge and skills across STEM and other curriculum areas.

Other resources developed throughout the year include: *Code and rescue!,* which teaches students how to code through computing and practical activities that explore the essential role engineers play in supporting emergency services and search and rescue missions; and *Engineering a better world*, inspired by innovations from the Africa Prize for Engineering Innovation. The Academy also received a grant from the Welsh government to translate its existing STEM teaching and learning resources into Welsh, which are available on the Academy's website and Hwb, the Welsh government's STEM resources website.

At the end of March, when schools across the UK closed because of the COVID-19 pandemic, the Academy launched STEM at home, a dedicated area of its website that showcases practical, hands-on activities for children who are learning at home. The activities encourage tinkering, investigation, and problem finding and solving, reflecting real-life engineering challenges, and using items that can be found at home, such as a torch, scissors, glue, cornflour, paper, and cardboard. It was supported by a social media campaign, which resulted in dramatically increased engagement and a much 'louder' community; the audience talked and shared more than ever.



Civil engineer and *This is Engineering* protagonist Milly Hennayake presents weir designs to prevent flooding to her colleagues

Last year, we awarded 34 new Visiting Professors, including 10 female engineers, across 27 universities

This is Engineering

On 6 November 2019, the first *This is Engineering Day* took place – an official day to raise awareness of what engineers really do and celebrate those who are shaping the world we live in.

This is Engineering Day received significant profile and reach through media and social media. More than 12 million people were reached through social media and #ThisIsEngineering trended for most of the day as engineers across the country and high-profile supporters, including Lewis Hamilton HonFREng, Tim Peake CMG, Carol Vorderman MBE and Konnie Huq, posted messages about the campaign. Coverage across print and broadcast media had an approximate reach of 14 million people, via titles such as the BBC, ITV, *The Sun* and *Cosmopolitan*. The day also saw the launch of a new Flickr image library that aims to challenge narrow perceptions of the profession with more representative images of engineers. More than 40 organisations donated over 780 images for the library, which can be used freely by media and others to promote a more representative image of the profession.

Season four of the campaign launched in September 2019. It received over five million video views and 180,000 engagements, taking total campaign video views to 40 million by March 2020 and engagements to over 1.1 million. Before the campaign launched in early 2018, 39% of teens said that they would consider a career in engineering; after season four this increased to 60%. Up to 71% of teens who have seen the campaign have taken action as a result.

First launched in 2018, *This is Engineering* is a multi-year campaign led by the Academy in partnership with EngineeringUK and major engineering organisations.

Engagement

Academy CEO, Dr Hayaatun Sillem, and Enterprise Hub member Dr Enass Abo-Hamed appeared in British *Vogue*'s special 'Forces for Change' September issue, guest edited by HRH The Duchess of Sussex

Much of the Academy's work aims to improve public awareness and recognition of the crucial role engineers play and of engineering's impact on lives, both in the UK and internationally. The expertise of the Academy's Fellowship informs and shapes authoritative policy advice, helping us to ensure that the voice of engineering is heard and heeded in policymaking and in the public domain.

The National Engineering Policy Centre (NEPC) continues to collaborate with its partners to connect policymakers with critical

Dr Enass Abo-Hamed, Co-founder and CEO of clean energy startup H2GO Power

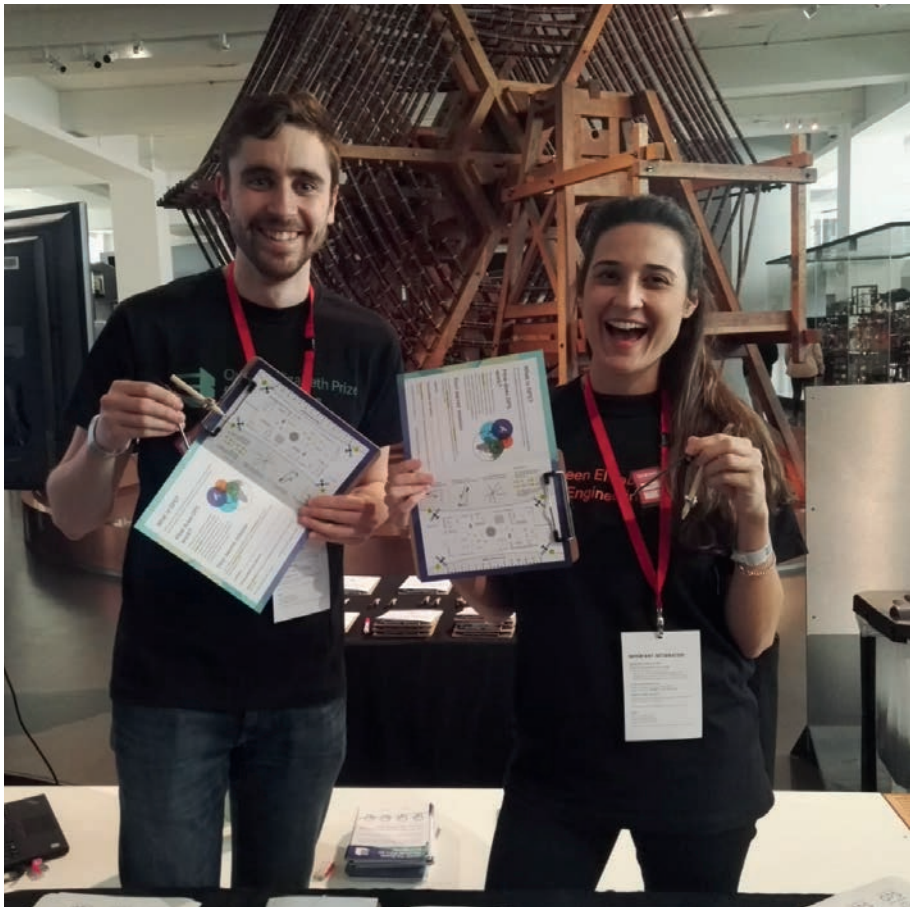
We work with 43 professional engineering organisations to represent more than 450,000 engineers across the UK

We held 91 events that were attended by over 7,300 people

engineering expertise to inform and respond to policy issues of national importance. In July 2019 and January 2020, plenary sessions for the NEPC featured keynote speeches from Chi Onwurah MP and Stephen Metclafe MP, respectively. The sessions brought together the UK's leading engineering institutions to shape the centre's programme and discuss crucial policy issues such as: factors influencing engineering businesses' decisions to invest in research and development in the UK; digital skills; net zero; and the safety and ethics of autonomous systems. In August, its first publication, *Engineering priorities for our future economy and society*, was launched, which set out the profession's priorities for upcoming spending and policy decisions in the UK including 20 key policy proposals that were developed through discussions between the professional engineering institutions. In the summer, we also awarded our first five Policy Fellowships to senior civil servants, allowing them to explore pressing policy questions, increase their understanding of engineering and strengthen their propensity to engage with the technical community to develop policy. The NEPC is also collaborating on projects concerning housing and infrastructure, and decarbonisation as part of the government's target to reach net zero greenhouse gas emissions by 2050, working closely on the latter with the Prime Minister's Council for Science and Technology.

As the COVID-19 pandemic escalated in the UK in March, the Academy responded by calling on the engineering community to help tackle the challenges it posed. A Positive Response programme was rapidly set up to coordinate support and make it easier for government to access the profession's expertise and capability. In the first week alone, we received hundreds of responses from engineers across the UK and, in some cases, overseas. The programme's working group has worked with engineers, supply chains and health professionals to identify need and link up expertise. Several proactive programmes were also set up to share knowledge, prompt innovation and support engineers in UK and globally. These included: the *Innovation in a crisis* series of online events, which highlight the ways in which engineers are contributing to the crisis; supporting engineering entrepreneurs to make and supply PPE for healthcare facilities in sub-Saharan Africa through Project CARE, which has been made possible thanks to generous donations from Fellows and project volunteers, as well as additional funding from our GCRF allocation; and helping the UK and global engineering community learn from the pandemic through the Engineering X Pandemic Preparedness programme. The NEPC has also been providing much advice to government, for instance publishing a rapid review of engineering factors that will influence the spread of COVID-19 in hospital environments.

In 2019, the MacRobert Award celebrated its 50th anniversary, and how, over this time, the winning innovations have changed the world, delivered enormous societal benefit and contributed to the UK economy. Supported by The Worshipful Company of Engineers, the 50th MacRobert Award was won by Bombardier for its innovative, resin-infused advanced composite wing at the Academy's annual Awards Dinner at Banqueting House in Whitehall. The anniversary celebrations also included: a reception at St James's Palace for past and present winners, finalists, judges, supporters and funders, hosted by HRH The Princess Royal; an Academy-commissioned set of conceptual images by photographer Ted Humble-Smith celebrating past winners in a special project generously co-funded by the Intellectual Property Office with the support of the MacRobert Trust; and three previous winners were featured in a set of stamps, produced by the Royal Mail to celebrate some of British engineering's greatest innovations over the past 50 years.



QEPrize Ambassadors at the Science Museum

Last year, the Academy's social media followers grew by over 75%, with more than 430,000 accounts now following our updates on Twitter, Facebook, LinkedIn and Instagram. Our posts are seen over one million times each month, and are clicked, shared or commented upon nearly 1,000 times a day

Queen Elizabeth Prize for Engineering

In December, HRH The Prince of Wales KG KT GCB OM awarded the 2019 Queen Elizabeth Prize for Engineering (QEPrize) to the four US engineers responsible for creating the first truly global, satellite-based positioning system (GPS) at a ceremony at Buckingham Palace. As part of the prize's aim to inspire the next generation of engineers, representatives from QEPrize donor companies, leading young engineers from the QEPrize Ambassador Network, and the winner of the 2019 Create the Trophy competition were invited to the event. Ambassadors and High Commissioners from around the world were also in attendance.

Over the course of the year, QEPrize activities to engage future engineers have also expanded. The Prize launched a new app for its global ambassador network to communicate and collaborate with each other more easily. The growing network now spans more than 14 countries around the world and the app allows members to share project resources, discuss engagement opportunities and access resources to help them to inspire the next generation. A new podcast series called *Create the Future* was also launched, which looks at the skill, creativity, and innovation that engineering encompasses and highlights the daily impact that engineers have on people's lives; as well as an interactive, GPS-themed scavenger hunt activity, which sees participants use a compass to find points using trilateration, the mathematical technique used in GPS.

Academy staff join representatives from other engineering organisations at the Pride in London march in July 2019

Delivery

Our staff team has continued to grow, increasing from 111 to 124 employees. In January 2020, we also welcomed our first regional member of staff who is based in the Midlands

As a charity, the Academy delivers public benefit from engineering excellence and technology innovation. Our Fellowship represents an unrivalled community of leading businesspeople, entrepreneurs, innovators and academics from every part of engineering and technology. Over the past five years, Fellows have volunteered more than 100,000 hours to support the next generation of engineers and address societal challenges. Our credibility with partners, funders and the engineering community is underpinned by our ability to deliver.

As the Academy grows, our focus on D&I becomes increasingly important. Our internal programme addresses both the embedding of D&I across our activities, and our own workplace culture and practices by providing D&I training, monitoring and reporting on progress, striving to attract a diverse group of people to the Academy, and creating and maintaining an inclusive culture. The Academy has been shortlisted for the 2020 ENEI Awards in the Inclusive Culture category and also became a Disability Confident employer, introducing workplace adjustments passports for our colleagues with disabilities and health conditions, a guide on reasonable adjustments, and disability training. For the first time, Academy staff marched in

Fellows Day 2019

the Pride in London parade in July, joining other engineering and STEM organisations, and also changed its logo for Pride month, transforming the flint icon into the rainbow colours of the Pride flag. We also organised the first internal celebrations for Black History Month, LGBT+ History Month and International Women's Day.

The Fellowship is at the heart of the Academy, and as such, events and activities are organised to increase engagement with Fellows across the UK and overseas. In August 2019, the Academy held its second Emeritus Fellows' lunch at Prince Philip House. It was an opportunity for the 60 Emeritus Fellows who attended to network with colleagues, friends and Academy staff. In February, over 150 Fellows, their partners and guests, and Academy awardees attended the annual Fellows' day. It was an informal, social occasion that provided an opportunity for Fellows to find out more about key Academy activities and how they could participate in them, as well as meet Trustees, other Fellows and Academy staff. Fellows were welcomed to the event by new President Professor Sir Jim McDonald FREng FRSE who shared insight into the task of developing a new five-year strategy and shaping the Academy's vision ahead of its 50th anniversary in 2026.

Towards the end of 2019, the Academy published its first book with support from Arup. Dr Peter Collins, Emeritus Director of the Royal Society, authored *Origins of the Royal Academy of Engineering* – a pre-history of the Academy. The book uses a wide range of archival material to analyse the problems that the creation of the Academy was intended to solve, and describes how a national academy for engineering was, eventually, accepted as the way forward before being launched as The Fellowship of Engineering in 1976.

In the last year, the Academy secured £1,753,000 in new funding commitments for its programmes from industry, charitable trusts and individual donors*

*For a full list of funders, please see the Annex to the Annual Report and Accounts, which can be found at www.raeng.org.uk/publications/strategy-and-finance

Future plans

As set out in our new 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**.

We work in three ways to address these goals: **fostering talent and diversity**, **promoting innovation**, and **influencing policy and public perceptions**. In keeping with our values, many of these goals will be delivered through active collaboration with key partners around the world, across and beyond engineering.

In our strategy we have committed to the following actions in the next year.

We will work with our partners to help build a sustainable society by:

Talent and diversity

- Raising awareness of the key role of engineers in enabling sustainable development to encourage many more, and more diverse, people to join the profession
- Embedding sustainability and global responsibility as a core element of our support for engineering education, training and professionalism
- Mobilising the global engineering community and creating strong international alliances to support sustainability
- Ensuring all relevant Academy activities and operations reflect our commitment to sustainability
- Continuing to support capacity building in engineering as a priority in international development programmes.

Innovation

- Expanding and improving our support for excellent researchers and entrepreneurs developing innovations targeted at sustainability challenges
- Enabling more promising cleantech and sustainability-focused innovations to be brought to market and companies to grow to scale
- Stimulating more effective international research and innovation collaborations to accelerate development and deployment of tools to advance sustainability.

Policy and engagement

- Enhancing engineers' capacity to engage effectively with policymakers and media on the UK's commitment to net zero greenhouse gas emissions by 2050 (net zero) and other sustainability challenges
- Building demand from government, other policymakers and media for engineering input and commentary on plans for net zero and other sustainability challenges
- Embedding a systems approach in UK and global policymakers' responses to sustainability challenges
- Enhancing public awareness of the critical role that engineering plays in advancing global sustainability.

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We will also work with them to create an inclusive economy by:

Talent and diversity

- Boosting the numbers and diversity of those entering engineering careers
- Promoting and expanding the use of innovative approaches and best practice in engineering education and training
- Catalysing a step-change in the diversity of the workforce at all levels and prevalence of inclusive cultures across engineering industry
- Continuing to diversify the Academy's Fellowship and awardees and embedding D&I across all our activities
- Stimulating modernisation of the UK approach to professional development and lifelong learning for engineers and technicians
- Ensuring that ethical best practice is fully embedded in UK engineering education, training and professional development.

Innovation

- Ensuring that Academy grants made within the UK reflect and support excellence and societal benefit across all parts of the country
- Establishing a national network of Enterprise Hub regional centres and growing our regional support offer
- Supporting more excellent researchers and entrepreneurs developing innovations that promote UK security, safety, public health and resilience
- Celebrating and enabling business–university collaboration across all parts of the UK
- Embedding integrity and ethics into our support for engineering.

Policy and engagement

- Enhancing the capacity of engineers to engage with impact on policy relating to innovation, R&D, entrepreneurship, business–university collaboration, and technological and digital disruption
- Building demand from policymakers for engineering input to policies on topics relating to inclusive economic development, resulting in more effective policies
- Embedding engineering expertise across government, including local, regional and devolved
- Understanding and informing societal views about the impact of technology and digitalisation, through public and media engagement
- Developing strategic alliances of UK and international partners to inform and engage policymakers.

Report of Trustee Board

Financial Review

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 (QEPrize) Foundation and RAE Trading Limited. The group accounts were prepared under the new Statement of Recommended Practice 2015 as defined in the Financial Reporting Standard 102.

Group income for the year was £52.9 million (2018/19 £36.7 million). During the year, donations totalled £1.7 million (2018/19 £1.6 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 £3.2 million compared to £3.2 million in the previous year.

Group expenditure on charitable activities was £48.7 million (2018/19 £36.0 million), 97% of total resources expended. Of this total, £44.8 million represented charitable activities and grants paid under various programmes and £3.9 million represented the costs of operating those programmes.

The cost of generating funds across the group was £1.6 million, 3% of total resources expended. 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.

Royal Academy of Engineering

Total income for the year was £51.2 million (2018/19 £35.0 million). The Academy is grateful to the Department for Business, Energy and Industrial Strategy for providing the government core grant to support activities aimed primarily at promoting engineering research in the UK. The core grant at £11.9 million (2018/19 £11.9 million) represented 23% of total group incoming resources.

Income from other grants and contracts increased by 80% to £36.0 million. Included in this amount were grants received from the Department for Business, Energy and Industrial Strategy of £12.4 million from the Investment in Research Talent fund, £8.5 million from the Global Challenges Research Fund and £8.0 million from the Newton Fund programme.

Expenditure on charitable activities was £48.7 million compared to £36.0 million in the previous year. An analysis based upon the principal objective of each activity shows that, of the total charitable expenditure of £48.7 million: 85% was on enhancing engineering capacity; 6% on promotion of and leadership in engineering; 5% on inspiring young people; and 4% on leading and shaping engineering policy. Employment costs increased from the previous year by 11% to £6.6 million due to additional resources required to deliver the increased scale of programmes.

The Queen Elizabeth Prize for Engineering Foundation

Total income for the year was £0.9 million (2018/19 £0.9 million). Expenditure on charitable activities was £0.8 million compared to £1.8 million the previous year. The QEPrize is awarded biennially, and an award was not made in 2019/20. The Foundation pays a management fee to the Academy for services, which includes staff employed and office space.

RAE Trading Limited

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 £1.4 million (2018/19 £1.4 million). Operating expenditure, including the cost of providing a service to the Academy, was £1.2 million (2018/19 £1.1 million). The net profit for the year before gift aid was £228,000 compared to £269,000 in the previous year.

Group asset value

The carrying value of the group's net assets was £62.6 million (2018/19 £65.2 million). Investments were valued at £44.3 million, with the Academy holding £22.4 million and the Foundation holding £21.9 million. Tangible fixed assets valued at £24.6 million included the £11.1 million value of the Carlton House Terrace lease and the £12.7 million of leasehold improvements to Prince Philip House. The main liability was a bank loan of £11.5 million, which funded the extension of 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.

Fixed assets

Capital expenditure during the year amounted to £0.4 million, which was almost entirely on computer systems and equipment and office fixtures and fittings.

Investments

The value of the Academy's investment portfolio decreased over the year by £3.1 million to £22.4 million. Realised and

unrealised investment losses during the year were £3.1 million. 28% of the Academy's investment portfolio is held in UK equities, 38% in global equities, 20% in fixed interest bonds and 14% in asset backed and alternative investments. Income to the Academy from dividends increased by 4% during the year to £843,000 while bank interest increased by £12,000 to £21,000. Group investment income increased by £57,000 to £1.6 million, of which £710,000 was income from the Queen Elizabeth Prize for Engineering Foundation's investments, which are managed separately from those of the Academy.

The Academy's investments are held in a managed investment fund, index funds and designated charity income funds. The Queen Elizabeth Prize for Engineering Foundation's investments are held in a managed investments fund.

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.

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	2020 £000	2019 £000
Total funds as per group balance sheet	62,553	65,177
Exclude:		
Restricted funds	33,947	34,085
Unrestricted funds tied up in tangible fixed assets	24,642	24,826
Designated and special funds	2,457	408
Free reserves	**1,507**	**5,858**

Free Reserves

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 £3.0 million to £4.5 million. The actual level of Free Reserves of £1.5 million is below the recommended level due to the significant decrease in the Academy investment portfolio during the last quarter of 2019/20. Subsequent to the balance sheet date, the value of investments increased by £2 million to 31 May 2020. 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.

Designated Funds

A strategic development fund of £2.5 million has been created to deliver impactful charitable activities over the next five years and/or strengthen the Academy for longer-term and fund non-recurring costs of major projects without impacting annual operating budgets.

Capital building fund

Within restricted funds there is a fund of £2.9 million to cover major capital improvements to Prince Philip House.

The Trustees of the Queen Elizabeth Prize for Engineering Foundation 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. There are no reserves held by RAE Trading Limited as all profit arising is gift aided to the Academy.

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.

Investment policy

The Trustee's 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 moneys 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.

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

	Zero	Very low	Low	Some	Acceptance
Health, safety and security	✓				
Safeguarding	✓				
Compliance and governance	✓				
Data protection and cybersecurity	✓				
Reputation	✓				
IT infrastructure and development		✓			
People and culture		✓			
Financial			✓		
Programme delivery			✓		
Impact				✓	
Programme innovation					✓

See table below for description of risk appetite classification

Risk appetite classification

Zero	Avoidance of risk and uncertainty (aspiration even though difficult to achieve).
Very low	Preference for very safe options that have a low degree of inherent risk.
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 mitigating actions are shown in the table below.

COVID-19 disrupts Academy programmes, impact or funding.	Delivery models of programmes and activities adjusted to account for COVID-19 environment.
Trading conditions or market forces threaten gift aid contribution from the Academy trading subsidiary.	The cost base of the trading subsidiary has been significantly reduced principally through the furloughing of all non-essential staff.
Inability to secure new funding at scale and timing needed to deliver agreed Academy programmes and activities. Failure of fundraising plans already in place leading to shortfall of funds. Failure to increase and diversify the Academy's income streams, ultimately leading to inability to deliver the strategic plan.	Programme activities are implemented only when sufficient funding is in place and/or can be scaled based on funding available. The development team has been expanded to support fundraising effort.
Cybersecurity attack leading to failure of IT systems and other major operational or reputational consequences.	Up-to-date technology and methodologies including third-party daily monitoring, malware protection, regular patching on laptops and servers, and email and web filtering. Encryption on laptops and VPN and two-factor authentication required when using Academy laptops and/or other services remotely.
Adverse outcome from government funding settlement beyond 2020/21.	Working closely with sister academies and building evidence for effectiveness of particular schemes.

Report of Trustee Board

Recipients of Academy grants

The Academy made over 1,000 grants and awards to organisations and individuals in 2019/20 totalling £29.0 million. The first 50 organisations, in order of total amount of cash paid to recipients, are listed below.

	Amount in £	Research	International partnerships and sustainable development	Enterprise, education and other programmes	Total
1	University College London	2,032,336	134,665	118,464	2,285,466
2	Imperial College London	1,944,309	34,320	126,700	2,105,329
3	University of Oxford	1,114,423	20,417	14,050	1,148,890
4	University of Glasgow	853,918	158,549	60,271	1,072,738
5	University of Southampton	806,736	49,126	76,762	932,624
6	University of Strathclyde	667,136	71,709	21,057	759,902
7	University of Manchester	668,113	9,059	54,781	731,953
8	University of Leeds	666,446	53,643	4,928	725,017
9	University of Edinburgh	599,050	32,745	37,057	668,852
10	Heriot-Watt University	580,961	32,809	15,000	628,770
11	University of Sheffield	528,649	39,448	58,665	626,762
12	University of Bristol	502,405	1,200	6,498	510,103
13	University of Cambridge	370,886	28,100	92,859	491,845
14	Queen's University Belfast	325,032	115,000	46,003	486,035
15	City, University of London	408,596	–	19,200	427,796
16	University of York	378,120	32,000	10,000	420,120
17	University of Exeter	264,444	107,470	23,940	395,854
18	University of Sussex	235,000	112,329	21,000	368,329
19	Newcastle University	186,000	124,970	14,700	325,670
20	Cranfield University	122,400	138,800	28,842	290,042
21	University of Nottingham	281,765	–	–	281,765
22	University of Birmingham	201,870	18,658	60,075	280,603
23	University of Bath	170,051	85,730	20,398	276,179
24	University of Warwick	215,714	5,658	52,780	274,152
25	King's College London	117,500	115,000	26,993	259,493
26	Loughborough University	247,942	–	10,336	258,278
27	University of Liverpool	224,650	21,209	8,206	254,065
28	Queen Mary, University of London	240,400	–	3,803	244,203
29	University of Leicester	107,572	129,081	(9,860)	226,794
30	Aston University	142,365	–	67,804	210,169
31	University of Durham	–	200,409	9,000	209,409
32	University of Surrey	176,900	–	4,000	180,900
33	Middle East Technical University	–	174,716	–	174,716

	Amount in £	Research	International partnerships and sustainable development	Enterprise, education and other programmes	Total
34	Universidad Nacional de Colombia	–	166,981	–	166,981
35	Edinburgh Napier University	22,500	122,400	–	144,900
36	Lancaster University	124,508	9,457	2,213	136,178
37	University of Northumbria	–	108,594	12,671	121,265
38	University of Kent	99,147	–	20,575	119,722
39	University of Cape Town (UCT)	–	119,464	–	119,464
40	SEO London Ltd	–	–	117,600	117,600
41	Moi University	–	110,000	–	110,000
42	Makerere University College of Engineering	–	109,993	–	109,993
43	University of Reading	–	100,000	6,500	106,500
44	Institution of Engineers Rwanda	–	103,048	–	103,048
45	Federation of African Engineering Organizations	–	101,550	–	101,550
46	Beijing Jiaotong University	–	100,587	–	100,587
47	Addis Ababa Institute of Technology	–	100,024	–	100,024
48	Kwame Nkrumah University of Science and Technology	–	100,000	–	100,000
49	University of Stirling	–	100,000	–	100,000
50	Bunda College of Agriculture	–	100,000	–	100,000
Total		**15,627,845**	**3,598,918**	**1,263,871**	**20,490,634**

Notes:

1. *Research comprises personal Chairs in Emerging Technologies, Research Fellowships, Research Chairs, IC Postdoctoral Research Fellowships, Proof of Concept Awards, Regional Engagement Awards, and Industrial Fellowships.*
2. *International partnerships and sustainable development programmes include Industry-Academia Partnerships, Transforming Systems through Partnerships, Higher Education Partnerships in sub-Saharan Africa, Frontiers of Development, Frontiers of Engineering for Development, Africa Catalyst, Africa Prize for Engineering Innovation, Engineering a Better World, and Newton International Fellowships.*
3. *Enterprise, education and other programmes include Visiting Professorships, Sainsbury Management Fellowships, Public Engagement Awards, Enterprise Fellowships, SME Leaders, Education Studies and Support, Engineering Leaders Scholarships, Leading Diversity in Engineering, Welsh Valleys Engineering Project and Connecting STEM Teachers.*

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 of one further three-year term. The Trustee election is by a ballot of Fellows each year. The Nominations Committee prepares a list of candidates willing to stand in the Trustee election and, if elected, to serve as either a Vice-President or Chair of a governance committee.

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 strategic plan. 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 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. A governance review will be conducted in 2020/21, which will consider any further alignment required to adopt recommended practices of 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, bullying and harassment, and anti-bribery. The Conduct Committee, chaired by the Vice-President for Fellowship Engagement, has been established to oversee 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 actual financial performance against budget.
- Reviewing the reserves policy annually.
- Ensuring that accounting rules 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, the performance of RAE Trading Limited and the development of a financial strategy.

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 auditors' 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 the risk appetite statement and a review of the Academy international programmes.

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 senior leadership team, who are accountable to the trustees.

The charity adheres to the 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 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. The role of Academy staff is solely one of administration of programmes.

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 2019 to inform the salary review implemented with effect from 1 April 2020.

The remuneration of the Chief Executive 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.

Senior leadership team

Day-to-day management of the Academy is the responsibility of the Chief Executive who with the directors comprise the senior leadership team listed below, which meets weekly. Strategy is set by the Trustee Board, and implemented by the senior leadership team, with oversight provided by Academy committees.

The directors who served during the period of the report are as follows:
Chief Executive | Dr Hayaatun Sillem CBE
Director, Development | Samantha Bagchi
Director, Operations and Finance | Chris Boyle
Director, Programmes | Dr Andrew Clark
Director, Engineering and Education | Dr Rhys Morgan
Director, Policy | Dr Nick Starkey
Director, Communications and Engagement | Joanna Trigg (appointed 1 January 2020)
Director, Queen Elizabeth Prize for Engineering | Keshini Navaratnam

Auditor's report

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

Opinion

We have audited the financial statements of the Royal Academy of Engineering ("the Parent Charity") and its subsidiaries ("the Group") for the year ended 31 March 2020, which comprise the consolidated statement of financial activities, the consolidated and charity 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).

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 2020 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
- have been prepared in accordance with the requirements of the Charities Act 2011.

Opinion on other matter as required by BEIS grant letters

In our opinion, in all material aspects, the grant payments received from the Department for Business, Energy and Industrial Strategy (BEIS) have been applied for the purposes set out in the Grant Letters and in accordance with the terms and conditions of the agreements.

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 are 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 Financial Reporting Council's (FRC's) Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions related to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the Trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Group or the Parent Charity's ability to continue to adopt the going concern basis of accounting for a period of at least 12 months from the date when the financial statements are authorised for issue.

Other information

The other information comprises the information included in the Financial Report, other than the financial statements and our auditor's report thereon. The other information comprises the Chair of the Finance Committee's statement and the Report of Trustee Board. The Trustees are responsible for the other information.

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.

In connection with our audit of the financial statements, 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 or a material misstatement of the other information. 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 Act 2011 requires us to report to you if, in our opinion:

- the information contained in the financial statements is inconsistent in any material respect with the Trustees' Annual Report
- adequate accounting records have not been kept by the Parent Charity

- the Parent Charity financial statements are not in agreement with the accounting records and returns
- we have not received all the information and explanations we require for our audit.

Responsibilities of Trustees

As explained more fully in the Statement of Trustee Board's 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 144 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.

A further description of our responsibilities for the audit of the financial statements is located at the FRC's website at: 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 the Charities Act 2011. 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.

Jill Halford (Senior Statutory Auditor)
For and on behalf of BDO LLP, statutory auditor
London

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 2020	Notes	Unrestricted funds	Restricted funds	Total 31 March 2020	Unrestricted funds	Restricted funds	Total 31 March 2019
		£	£	£	£	£	£
Income from:							
Charitable activities	2, 3, 4	–	47,961,152	47,961,152	–	31,896,041	31,896,041
Donations and legacies	5	491,996	1,192,968	1,684,964	75,222	1,550,000	1,625,222
Other trading activities	6a	1,602,886	–	1,602,886	1,652,024	–	1,652,024
Investments	6	864,317	768,798	1,633,115	819,798	755,779	1,575,577
Total income		**2,959,199**	**49,922,918**	**52,882,117**	**2,547,044**	**34,201,820**	**36,748,864**
Expenditure on:							
Raising funds		1,407,431	212,988	1,620,419	1,426,897	165,758	1,592,655
Charitable activities	7	1,736,462	46,990,861	48,727,323	2,251,616	33,780,352	36,031,968
Other	8	46,482	7,496	53,978	89,258	3,563	92,821
Total expenditure		**3,190,375**	**47,211,345**	**50,401,720**	**3,767,771**	**33,949,673**	**37,717,444**
Net gains/(losses)on investment	11	(2,820,094)	(2,284,615)	(5,104,709)	1,004,119	1,166,605	2,170,724
Net income / (expenditure)		**(3,051,270)**	**426,958**	**(2,624,312)**	**(216,608)**	**1,418,752**	**1,202,144**
Transfer between funds		**564,756**	**(564,756)**	**–**	**435,718**	**(435,718)**	**–**
Net movement in funds		**(2,486,514)**	**(137,798)**	**(2,624,312)**	**219,110**	**983,034**	**1,202,144**
Fund balances brought forward 1 April		**31,091,658**	**34,085,268**	**65,176,926**	**30,872,548**	**33,102,234**	**63,974,782**
Fund balances carried forward 31 March	16, 17	**28,605,144**	**33,947,470**	**62,552,614**	**31,091,658**	**34,085,268**	**65,176,926**

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

Balance sheets

At 31 March 2020	Notes	Group 2020 £	Group 2019 £	Charity 2020 £	Charity 2019 £
Tangible fixed assets	10	24,642,166	24,826,390	24,642,167	24,826,390
Investments	11	44,332,050	50,172,811	22,383,024	25,515,903
Total fixed assets		**68,974,216**	**74,999,201**	**47,025,191**	**50,342,293**
Current assets:					
Debtors	12	7,820,263	5,043,302	7,948,483	5,268,295
Stock	13	3,195	1,278	3,195	1,278
Cash at bank		5,645,736	2,339,786	4,927,873	1,684,136
Short-term deposits		532,661	407,052	167,072	121,147
		14,001,855	**7,791,416**	**13,046,622**	**7,074,856**
Liabilities					
Creditors (amounts falling due within one year)	14a	(8,923,457)	(6,113,691)	(8,723,338)	(5,542,437)
Net current assets		**5,078,398**	**1,677,725**	**4,323,284**	**1,532,419**
Total assets less current liabilities		74,052,614	76,676,926	51,348,475	51,874,712
Creditors (amounts falling due beyond one year)	14c	(11,500,000)	(11,500,000)	(11,500,000)	(11,500,000)
Total net assets		**62,552,614**	**65,176,926**	**39,848,475**	**40,374,712**
The funds of the charity:					
Restricted income funds	16	33,947,470	34,085,268	11,334,191	9,307,300
Unrestricted funds					
Special funds		–	78,639	–	78,639
Designated fund		2,456,831	329,256	329,256	311,300
General fund		26,148,313	30,683,763	28,185,028	30,677,473
Total unrestricted funds		28,605,144	31,091,658	28,514,284	31,067,412
Total charitable funds		**62,552,614**	**65,176,926**	**39,848,475**	**40,374,712**

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 on behalf of the Trustee Board on 14 July 2020

Professor Sir Jim McDonald FREng FRSE
President

Professor Stephen Young FREng
Chair of the Finance Committee

Consolidated statement of cash flows

Year ended 31 March 2020

	2020 £	2019 £
Cash flows from operating activities:		
Net cash expended by operating activities	1,444,443	(2,203,906)
Cash flows from investing activities:		
Dividends, interest and rents from investments	1,633,115	1,575,577
Purchase of property, plants and equipment	(382,052)	(292,790)
Proceeds from the sale of investments	3,806,629	33,643,576
Purchase of investments	(3,070,576)	(34,227,099)
Net cash provided by investing activities	1,987,116	699,264
Cash flows used in financing activities:		
Change in cash and cash equivalents in the reporting period	3,431,559	(1,504,642)
Cash and cash equivalents at 1 April	2,746,838	4,251,480
Cash and cash equivalents at 31 March	**6,178,397**	**2,746,838**

Reconciliation of net income/(expenditure) to net cash flow from operating activities		
Net (expenditure)/income for the reporting periods (as per the statement of financial activities)	(2,624,312)	1,202,144
Net losses/(gains) on investments	5,104,709	(2,170,724)
Adjustments for:		
Depreciation charges	566,271	543,011
Dividends, interest and rents from investments	(1,633,115)	(1,575,577)
Decrease in stocks	(1,917)	65
Decrease /(increase) in debtors	(2,735,783)	891,273
(Decrease)/increase in creditors	2,768,590	(1,094,098)
Net cash expended by operating activities	**1,444,443**	**(2,203,906)**

Analysis of cash and cash equivalents		
Cash in hand	5,645,736	2,339,786
Notice deposits	532,661	407,052
Total cash and cash equivalents	**6,178,397**	**2,746,838**

Notes to the accounts

For the year ended 31 March 2020

Note 1 – Accounting policies

(a) Basis of preparation of the accounts

The annual report, incorporating the financial statements for the year ended 31 March 2020, 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 2015) – (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.

(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 FRS102.

(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, and also include returned grants that are accounted for on receipt.
- Gifts and donations and legacies are included in full in the statement of financial activities when receivable.
- For legacies, entitlement 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 incoming resources consist of subscriptions, including income tax recoverable.

(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) 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

Notes to the accounts

assigned to the Academy's charitable objectives in line with the direct expenditure under each heading.

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

(i) 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*

(j) 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.

(k) 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.

(l) Funds
General funds are those that are available for use at the Council'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.

(m) 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.

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

(o) Cash and cash equivalents at bank
Cash and cash equivalents at bank include cash and short-term highly liquid investments obtainable within three months.

(p) 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.

(q) 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.

(r) 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.

(s) 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 monitors 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 regarding the coronavirus pandemic and its impact on the wider economy, including using reverse stress testing. In doing so, we have particularly considered the impact of a global economic recession that results in austerity measures and the Charity's government funding being reduced over and above our key risk assumptions (set out in the Financial Review).
Based on these forecasts, and the Group and Charity's net asset position of £62.5 million, which is comprised primarily of cash and investments, we believe that the going concern basis of accounting remains appropriate for our accounts. We have also considered whether there is any material uncertainty that may cast significant doubt over the use of that basis for a period of at least 12 months from the date of approval of the financial statements and we do not believe that this is the case.

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

Year ended 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2019
	£	£	£	£	£	£
Note 2 – Grants						
Government grant (See note 3)	–	11,938,607	11,938,607	–	11,890,433	11,890,433

Note 3 – Government grant						
Grant was expended on:						
Programme expenditure	–	10,491,000	10,491,000	–	10,491,000	10,491,000
Cost of managing programmes	–	1,447,607	1,447,607	–	1,399,433	1,399,433
	–	**11,938,607**	**11,938,607**	**–**	**11,890,433**	**11,890,433**

Note 4 – Other grants and contracts						
Investment in Research Talent	–	12,374,763	12,374,763	–	4,627,688	4,627,688
Global Challenges Research Fund	–	8,531,252	8,531,252	–	5,505,812	5,505,812
Newton Fund	–	7,994,202	7,994,202	–	5,539,859	5,539,859
Connecting STEM Teachers	–	1,309,845	1,309,845	–	564,150	564,150
End of engineered life	–	1,000,000	1,000,000	–	–	–
Programme for safer complex industrial and engineered systems	–	1,000,000	1,000,000	–	–	–
Engineering skills where they are most needed	–	1,000,000	1,000,000	–	–	–
UK Intelligence Community (IC) Postdoctoral Research Fellowships	–	703,000	703,000	–	1,033,000	1,033,000
Sainsbury Management Fellowships	–	484,625	484,625	–	585,000	585,000
Leverhulme Fellowships	–	360,734	360,734	–	356,688	356,688
1851 Royal Commission Enterprise Fellowships	–	239,922	239,922	–	187,500	187,500
RAEng/EPSRC Research Fellowships	–	185,776	185,776	–	188,558	188,558
Tier 1 Visa Applications	–	164,475	164,475	–	89,445	89,445
Africa Prize for Engineering Innovation	–	107,640	107,640	–	308,000	308,000
Global Grand Challenges Summit 2019	–	88,193	88,193	–	–	–
KS2 STEM Resources and CPD Programme	–	79,317	79,317	–	75,000	75,000
Enterprise Hub	–	70,553	70,553	–	179,533	179,533
Education Studies and Support	–	66,700	66,700	–	29,493	29,493
Other awards and contracts	–	60,500	60,500	–	63,000	63,000

Notes to the accounts

Year ended 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2019
	£	£	£	£	£	£
MacRobert Award	–	41,000	41,000	–	26,238	26,238
BEIS UK-DE Energy Systems Symposium	–	40,575	40,575	–	–	–
BEIS Bhattacharyya	–	30,935	30,935	–	–	–
Barrow Engineering Programme	–	19,667	19,667	–	55,735	55,735
RAF Centenary Programme	–	19,154	19,154	–	62,500	62,500
Policy Centre	–	19,000	19,000	–	54,515	54,515
RAEng/WCE Awards	–	17,750	17,750	–	17,750	17,750
Visiting Professors	–	6,830	6,830	–	–	–
Policy Fellowships	–	4,400	4,400	–	–	–
Welsh Valleys Bursaries Scheme	–	1,100	1,100	–	221,100	221,100
History of the Royal Academy of Engineering	–	595	595	–	–	–
Sir Ralph Robins Scholarships	–	41	41	–	285,601	285,601
Lowestoft Engineering Programme	–	–	–	–	11,570	11,570
Biomedical Engineering	–	–	–	–	11,000	11,000
FE Entrepreneurship – CET	–	–	–	–	7,380	7,380
MSc Aerospace Bursary Programme	–	–	–	–	(80,507)	(80,507)
	–	36,022,544	36,022,544	–	20,005,608	20,005,608
MSc Aerospace Bursary Programme showing negative income 2018/19 due to release of provision following the end of the scheme						
Total charitable activities	**–**	**47,961,152**	**47,961,152**	**–**	**31,896,041**	**31,896,041**

Note 5 – Donations and legacies						
Development Appeal	–	–	–	–	–	–
Annual Appeal	37,904	–	37,904	49,533	–	49,533
Connecting STEM Teachers	–	–	–	–	250,000	250,000
Enterprise Hub capital project	–	–	–	–	–	–
This is Engineering	–	992,968	992,968	–	1,100,000	1,100,000
Queen Elizabeth Prize for Engineering	–	200,000	200,000	–	200,000	200,000
Legacies	434,660	–	434,660	–	–	–
Other	19,432	–	19,432	25,689	–	25,689
	491,996	**1,192,968**	**1,684,964**	**75,222**	**1,550,000**	**1,625,222**

Year ended 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2020	Unrestricted funds	Restricted funds	Totals 31 March 2019
	£	£	£	£	£	£
Note 6 – Investment income						
Dividends and income from equity investments and fixed interest bonds	843,477	767,195	1,610,672	811,104	755,072	1,566,176
Interest on bank deposits	20,840	1,603	22,444	8,694	707	9,401
	864,317	**768,798**	**1,633,115**	**819,798**	**755,779**	**1,575,577**
Note 6a – Other trading income						
Sponsorship and events	150,382	–	150,382	163,540	–	163,540
Subscription income	331,586	–	331,586	363,554	–	363,554
Advertising income and merchandising	21,649	–	21,649	32,493	–	32,493
Conferencing business	1,099,269	–	1,099,269	1,092,437	–	1,092,437
	1,602,886	**–**	**1,602,886**	**1,652,024**	**–**	**1,652,024**

	Promotion of, and leadership in, engineering	Leading and shaping engineering policy	Enhancing engineering capacity	Inspiring young people and nurturing educational skills	Queen Elizabeth Prize for Engineering Foundation	Total 31 March 2020	Total 31 March 2019
	£	£	£	£	£	£	£
Note 7 – Charitable activities							
Unrestricted							
Charitable activities	118,275	–	–	–	–	118,275	71,073
Charitable grants	37,386	–	–	–	–	37,386	50,000
Direct salaries	400,563	–	–	–	–	400,563	365,159
Support costs	1,180,238	–	–	–	–	1,180,238	1,765,384
	1,736,462	**–**	**–**	**–**	**–**	**1,736,462**	**2,251,616**
Restricted							
Charitable activities	367,245	478,379	8,913,526	1,155,945	322,950	11,238,045	9,838,931
Charitable grants	497,481	176,512	27,415,780	809,886	–	28,899,659	18,417,201
Direct salaries	355,502	1,066,443	2,104,893	341,860	279,686	4,148,384	3,397,340
Support costs	74,870	105,617	2,358,228	141,594	24,463	2,704,773	2,126,879
	1,295,098	**1,826,951**	**40,792,427**	**2,449,285**	**627,099**	**46,990,861**	**33,780,352**
Total charitable activities	**3,031,560**	**1,826,951**	**40,792,427**	**2,449,285**	**627,099**	**48,727,323**	**36,031,968**
Total support costs of £3,885,011 are made up of indirect staff costs totalling £1,281,376 and accommodation costs and overheads totalling £2,603,635							
2019 Total charitable activities	**3,606,435**	**1,501,213**	**26,391,801**	**2,872,489**	**1,660,030**		**36,031,968**
In 2019, £2,251,616 of charitable activities expenditure related to unrestricted funds and £33,780,352 related to restricted funds							

Notes to the accounts

	2020 £	2019 £
Note 8 – Other costs		
Auditor's fees:		
– Audit	28,134	21,400
– Other services	17,699	1,265
Legal and professional fees	8,145	70,155
	53,978	**92,820**
£6,229 was charged to the Academy in relation to operating leases		

Note 9 – Staff and pensions costs		
Gross salaries	5,114,657	4,426,433
Employer's National Insurance less NI Allowance	566,706	492,081
Benefits in kind	31,253	23,020
Pension charge	523,618	442,995
Recruitment costs	87,970	86,249
Temporary staff costs	64,822	252,125
Training costs	88,476	45,757
Other costs	85,077	147,610
	6,562,579	**5,916,270**

Average number of staff in the year by activity:	Number	Number
– Engineering and education	15	15
– Programmes	39	30
– Policy and external affairs	22	19
– Executive, development, finance and administration	35	29
– Queen Elizabeth Prize for Engineering Foundation	7	6
	118	**99**

No remuneration is paid to the President or members of the Trustee Board of the Academy. Travelling expenses to attend Trustee Board meetings were reimbursed to seven board members in 2019/20 amounting to £8,064 (2018/19 £6,361 – 10 members).

Ex gratia payments of £8,093 were made in 2019/20 (2018/19 £21,287)

The emoluments of higher paid staff within the following scales were:	Number	Number
£60,001 – £70,000	5	5
£70,001 – £80,000	3	1
£80,001 – £90,000	3	3
£90,001 – £100,000	2	0
£100,001 – £110,000	2	2
£120,001 – £130,000	1	1
£180,001 – £190,000	1	0
£190,001 – £200,000	0	1

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

The senior leadership team comprises of a chief executive and seven directors (2018/19 six directors) who manage the day-to-day operations of the charity. Their aggregate remuneration in the year was £1,001,310 (2018/19 £864,486).

Note: There were no resignations and one appointment among the senior management 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
	£	£	£	£	£
Tangible fixed assets (group and charity)					
Cost					
At 1 April 2019	1,223,548	828,213	12,509,790	13,868,807	28,430,358
Additions	213,723	168,324	–	–	382,047
At 31 March 2020	**1,437,271**	996,537	12,509,790	13,868,807	28,812,405
Depreciation					
At 1 April 2019	(943,988)	(350,592)	(1,285,405)	(1,023,983)	(3,603,968)
Charge for year	(206,005)	(144,166)	(91,257)	(124,843)	(566,271)
At 31 March 2020	**(1,149,993)**	**(494,758)**	**(1,376,662)**	**(1,148,826)**	**(4,170,239)**
Net book value					
At 31 March 2020	287,278	501,779	11,133,128	12,719,981	24,642,166
At 31 March 2019	279,560	477,621	11,224,385	12,844,824	24,826,390

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 1986–1991. 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 from 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.

Notes to the accounts

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.

	2020 General fund (Charity)	2020 Designated income funds (Charity)	2020 Total funds (Charity)	2020 Restricted fund (Subsidiary)	2020 Total Portfolio (Group)
Market value at 1 April	23,778,144	1,737,659	25,515,803	24,657,009	50,172,812
Add acquisitions at cost	758,683	867,646	1,626,329	1,444,247	3,070,576
Less: sales proceeds	(752,093)	(880,938)	(1,633,031)	(2,173,598)	(3,806,629)
Net investment (losses)/gains for the year	(2,820,094)	(306,083)	(3,126,177)	(1,978,532)	(5,104,709)
Market value at 31 March	**20,964,640**	**1,418,284**	**22,382,924**	**21,949,126**	**44,332,050**

Investments in the general fund (charity) consist of securities listed on the London Stock Exchange (28% of portfolio), global stock markets excluding UK (38% of portfolio) and fixed interest bonds/diversified assets (35% of portfolio).

The designated income funds consist of funds invested in line with the general fund (charity) investment strategy to support the MacRobert Award and funds invested in a charity common investment fund to support the Colin Campbell Mitchell Award.

	Group		Charity	
	2020 £	2019 £	2020 £	2019 £
Note 12 – Debtors				
Grants and sponsorship receivable	6,871,784	4,094,002	6,871,787	4,094,003
Prepayments	164,439	186,075	164,439	186,075
Other debtors	784,040	763,226	622,340	545,895
Gift aid receivable from RAE Trading Limited	–	–	227,912	268,838
Amounts due for subsidiary undertakings	–	–	62,005	173,484
Other taxes and social security costs	–	–	–	–
	7,820,263	**5,043,303**	**7,948,483**	**5,268,295**
Note 13 – Stocks (Group and Charity)				
Publications, Academy ties, presentation plates and medals	3,195	1,278	3,195	1,278

	Group		Charity	
	2020 £	2019 £	2020 £	2019 £
Note 14a – Creditors (amounts falling due within one year)				
Committed grants and prizes	6,932,545	4,185,697	6,932,545	4,185,698
Deferred income	727,601	548,061	727,601	548,061
Subscriptions in advance	180,990	201,566	180,990	201,566
Other creditors	909,313	1,178,367	687,719	578,723
Amounts due to subsidiary undertakings	–	–	21,475	28,389
Social security and other costs	173,008	–	173,008	–
Bank loan	–	–	–	–
	8,923,457	**6,113,691**	**8,723,338**	**5,542,437**

Note 14b – Deferred income

Deferred income comprises of advance funding for the provision of the MSc Aerospace Bursary Programme, sponsorship of the Academy Awards ceremony, Connecting STEM Teachers programme and Research Fellowships.

Balance at 1 April	548,061	1,345,871	548,061	1,345,871
Amount released to income earned from charitable activities	(1,367,693)	(1,018,299)	(1,367,693)	(1,018,299)
Amount deferred in year	1,547,233	220,489	1,547,233	220,489
Balance as at 31 March	**727,601**	**548,061**	**727,601**	**548,061**

Note 14c – Creditors (amounts falling beyond one year)				
Bank loan*				
– Due one to two years	–	–	–	–
– Due within two to five years	–	–	–	–
– Due after five years	11,500,000	11,500,000	11,500,000	11,500,000
	11,500,000	**11,500,000**	**11,500,000**	**11,500,000**

**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 £31.95 million on 28 February 2020. There is currently a 36% loan to value ratio.
There is a maximum 45% loan to value ratio set out in the terms of the loan.

Note 15 – Future commitments				
Total minimum commitments under operating leases				
Rent	240,000	240,000	240,000	240,000
Maturing between one and five years (equipment)	7,450	13,679	7,450	13,679
Total	**247,450**	**253,679**	**247,450**	**253,679**

Notes to the accounts

Note 16 – Statement of changes in reserves

(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 Business, Energy and Industrial Strategy (BEIS)** provides a government grant to fund programmes in the areas of engineering research and promoting the public understanding of engineering.
- **Investment in Research Talent** recognises the importance of engineering research to the UK. The government has provided the Royal Academy of Engineering with a significant increase in funding over the next four years to attract the best research talent to the UK and support their work.
- **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/EPSRC 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.
- **ExxonMobil** provides funds for Engineering Teaching Fellowships, which support able young university engineering lecturers.
- **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.
- **MSc Aerospace Bursary Programme** for students studying for MSc degrees in aerospace engineering is funded by BEIS and delivered in collaboration with the Royal Aeronautical Society.
- **Barrow Engineering Programme** is a regional programme to enhance and enrich STEM teaching and learning in a network of primary schools, secondary schools and further education colleges.
- **KS2 STEM Resources and CPD Programme** is funded by BAE Systems and supports the development and dissemination of contextualised resource boxes for use in primary and secondary schools.
- **The Enterprise Hub** harnesses the expertise, insight and networks of Academy Fellows, who include some of the UK's most successful entrepreneurs and business leaders, to support the country's most promising engineering entrepreneurs.
- **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.
- **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.
- **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.
- **Global Grand Challenges Summit 2019** event brought together inspirational world leaders with the next generation of engineers and changemakers to build creative collaborations and solve the grand challenges facing our future world of 10 billion people.
- **Enriching Engineering Education Programme** is centred 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.
- **The Sir Angus Paton Bequest Fund** is used to provide a bursary for a postgraduate student to undertake a full-time MSc course in a subject related to environmental engineering.
- **The Hinton Bequest Fund** is used to contribute towards the cost of the annual Hinton Lecture.
- **Other awards** and contracts are donations and contracts by a number of companies for specific programmes each year.
- **Stoke Engineering Programme** is a regional programme to enhance and enrich STEM teaching and learning in a network of secondary schools and further education colleges.

– **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.

(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.

	Balance at 1 April 2019	Incoming resources	Resources expended	Transfers between funds	Net investment gains/(losses)	Balance at 31 March 2020
	£	£	£	£	£	£
Restricted funds						
Government grant	–	11,938,607	(11,938,607)	–	–	–
Investment in Research Talent	–	12,374,763	(12,374,763)	–	–	–
End of engineered life	–	1,000,000	(324,002)	–	–	675,998
Programme for safer complex industrial and engineered systems	–	1,000,000	(74,288)	–	–	925,712
Engineering skills where they are most needed	–	1,000,000	(238,456)	–	–	761,544
Policy Fellowships	–	4,400	(4,400)	–	–	–
BEIS Bhattacharyya	–	30,935	(30,935)	–	–	–
BEIS UK-DE Energy Systems Symposium	–	40,575	(40,575)	–	–	–
Sainsbury Management Fellowships	–	484,625	(484,625)	–	–	–
RAEng/EPSRC Research Fellowships	–	185,776	(185,776)	–	–	–
Leverhulme Fellowships	–	360,734	(360,734)	–	–	–
Engineering Leaders Scholarships	223,646	–	(40,000)	–	–	183,646
Connecting STEM Teachers	526,896	1,309,845	(509,559)	–	–	1,327,182
Sir Ralph Robins Scholarships	285,601	41	(27,303)	–	–	258,339
Welsh Valleys Bursaries Scheme	221,100	1,100	(185,210)	–	–	36,990
Policy Centre	54,515	19,000	(73,515)	–	–	–
Engineering Further Education	169,035	–	(32,418)	–	–	136,617
Barrow Engineering Programme	23,862	19,667	(29,895)	–	–	13,634
KS2 STEM Resources and CPD Programme	71,219	79,317	(43,416)	–	–	107,120
Enterprise Hub	377,741	70,553	(182,640)	–	–	265,654
Africa Prize for Engineering Innovation	372,495	107,640	(27,111)	–	–	453,024
Ms Morag Campbell-Nelder	459,692	20,815	(20,603)	–	(120,337)	339,567
Newton Fund	–	7,994,202	(7,994,202)	–	–	–

Notes to the accounts

	Balance at 1 April 2019	Incoming resources	Resources expended	Transfers between funds	Net investment gains/(losses)	Balance at 31 March 2020
	£	£	£	£	£	£
Capital Building Fund	3,244,787	–	–	(382,047)	–	2,862,740
This is Engineering	295,000	992,968	(1,027,015)	–	–	260,953
Global Grand Challenges Summit 2019	–	88,193	(88,193)	–	–	–
Enriching Engineering Education Programme	364,561	–	–	–	–	364,561
Education Studies and Support	–	66,700	(66,700)	–	–	–
Sir Angus Paton Bequest Fund	56,603	–	–	–	–	56,603
MacRobert Award	1,348,900	79,083	(149,803)	–	(185,745)	1,092,435
Sir George Macfarlane Medal	18,038	–	(1,000)	–	–	17,038
Other awards and contracts	118,459	60,500	(60,000)	–	–	118,959
Stoke Engineering Programme	–	–	–	–	–	–
RAEng/WCE Awards	–	17,750	(17,750)	–	–	–
1851 Royal Commission Enterprise Fellowships	–	239,922	(239,922)	–	–	–
Global Challenges Research Fund	–	8,531,252	(8,531,252)	–	–	–
Tier 1 Visa Applications	–	164,475	(164,475)	–	–	–
Visiting Professors	–	6,830	(6,830)	–	–	–
UK Intelligence Community (IC) Postdoctoral Research Fellowships	1,050,905	703,000	(768,889)	–	–	985,016
RAF Centenary Programme	–	19,154	(19,154)	–	–	–
History of the Royal Academy of Engineering	–	595	(595)	–	–	–
Queen Elizabeth Prize for Engineering	24,802,216	909,900	(846,734)	(182,709)	(1,978,533)	22,704,140
Total restricted funds	**34,085,268**	**49,922,918**	**(47,211,345)**	**(564,756)**	**(2,284,615)**	**33,947,470**
Designated funds						
Special funds						
– Building maintenance fund	78,639	–	–	(78,639)	–	–
Total special funds	**78,639**	**–**	**–**	**(78,639)**	**–**	**–**
Strategic Development Fund	–	–	–	2,456,831	–	2,456,831
Education Support Designated Fund	5,531	–	–	(5,531)	–	–
External Education Designated Fund	71,020	–	–	(71,020)	–	–
Ingenia Designated fund	32,058	20,939	(52,997)	–	–	–
Forum Partnerships Programme Designated Fund	220,647	–		(220,647)	–	–
Total designated and special funds	**407,896**	**20,939**	**(52,997)**	**2,080,993**	**–**	**2,456,831**
General fund	**30,683,762**	**2,938,260**	**(3,137,378)**	**(1,516,237)**	**(2,820,094)**	**26,148,313**
Total funds	**65,176,926**	**52,882,117**	**(50,401,720)**	**–**	**(5,104,709)**	**62,552,614**

The general fund deficit of £199,118 is the difference between incoming resources of £2,938,260 and resources expended of £3,137,378. All other funds, other than the Queen Elizabeth Prize for Engineering, are funds of the parent charity.

	Balance at 1 April 2018	Incoming resources	Resources expended	Transfers between funds	Net investment losses	Balance at 31 March 2019
	£	£	£	£	£	£
Restricted funds						
Government grant	–	11,890,433	(11,890,433)	–	–	–
Investment in Research Talent	–	4,627,688	(4,627,688)	–	–	–
Sainsbury Management Fellowships	–	585,000	(585,000)	–	–	–
RAEng/EPSRC Research Fellowships	–	188,558	(188,558)	–	–	–
Leverhulme Fellowships	–	356,688	(356,688)	–	–	–
Engineering Leaders Scholarships	223,646	–	–	–	–	223,646
Connecting STEM Teachers	208,429	814,150	(495,683)	–	–	526,896
Sir Ralph Robins Scholarships	–	285,601	–	–	–	285,601
Welsh Valleys Bursaries Scheme	–	221,100	–	–	–	221,100
Policy Centre	–	54,515	–	–	–	54,515
Engineering Further Education	215,035	–	(46,000)	–	–	169,035
MSc Aerospace Bursary Programme	–	(80,507)	80,506	–	–	–
Barrow Engineering Programme	26,644	55,735	(58,517)	–	–	23,862
KS2 STEM Resources and CPD Programme	71,219	75,000	(75,000)	–	–	71,219
Enterprise Hub	335,126	179,533	(136,918)	–	–	377,741
Africa Prize for Engineering Innovation	147,973	308,000	(83,478)	–	–	372,495
Ms Morag Campbell-Nelder	447,408	14,744	(1,466)	–	(995)	459,692
Newton Fund	–	5,539,859	(5,539,859)	–	–	–
Enterprise Hub capital project	3,537,572	–	–	(292,785)	–	3,244,787
This is Engineering	669,755	1,100,000	(1,474,755)	–	–	295,000
Lowestoft Engineering Programme	–	11,570	(11,570)	–	–	–
Enriching Engineering Education Programme	431,564	–	(67,003)	–	–	364,561
Education Studies and Support	–	29,493	(29,493)	–	–	–
Sir Angus Paton Bequest Fund	56,603	–	–	–	–	56,603
MacRobert Award	1,346,280	72,313	(66,576)	–	(3,117)	1,348,900
Sir George Macfarlane Medal	18,038	–	–	–	–	18,038
Other awards and contracts	55,459	63,000	–	–	–	118,459
Stoke Engineering Programme	–	–	(8,000)	8,000	–	–
RAEng/WCE Awards	–	17,750	(17,750)	–	–	–
Biomedical Engineering	–	11,000	(11,000)	–	–	–
1851 Royal Commission Enterprise Fellowships	–	187,500	(187,500)	–	–	–
Global Challenges Research Fund	–	5,505,812	(5,505,811)	–	–	–
Tier 1 Visa Applications	–	89,445	(89,445)	–	–	–
UK Intelligence Community (IC) Postdoctoral Research Fellowships	543,676	1,033,000	(525,771)	–	–	1,050,905
RAF Centenary Programme	–	62,500	(62,500)	–	–	–
Computing in Schools	–	–	(26,102)	26,102	–	–

Notes to the accounts

	Balance at 1 April 2018	Incoming resources	Resources expended	Transfers between funds	Net investment losses	Balance at 31 March 2019
	£	£	£	£	£	£
FE Entrepreneurship – CET	–	7,380	(7,380)	–	–	–
History of the Royal Academy of Engineering	24,884	–	(24,884)	–	–	–
Queen Elizabeth Prize for Engineering	24,742,925	894,959	(1,829,351)	(177,036)	1,170,719	24,802,216
Total restricted funds	**33,102,234**	**34,201,820**	**(33,949,673)**	**(435,718)**	**1,166,605**	**34,085,268**
Designated funds						
Special funds						
– Building maintenance fund	78,639	–	–	–	–	78,639
Total special funds	**78,639**	**–**	**–**	**–**	**–**	**78,639**
Education Support Designated Fund	5,531	–	–	–	–	5,531
External Education Designated Fund	105,122	–	–	(34,102)	–	71,020
Ingenia Designated fund	–	32,058	–	–	–	32,058
Forum Partnerships Programme Designated Fund	200,647	20,000		–	–	220,647
Total designated and special funds	**389,940**	**52,058**	**–**	**(34,102)**	**–**	**407,895**
General fund	**30,482,609**	**2,494,986**	**(3,767,771)**	**469,821**	**1,004,119**	**30,683,763**
Total funds	**63,974,782**	**36,748,864**	**(37,717,444)**	**–**	**2,170,724**	**65,176,926**

The general fund deficit of £1,272,785 is the difference between incoming resources of £2,494,986 and resources expended of £3,767,771. All other funds, other than the Queen Elizabeth Prize for Engineering, are funds of the parent charity.

Note 17 – Analysis of net assets between funds

	Tangible fixed assets	Investments	Current assets	Liabilities	Total net assets
	£	£	£	£	£
Restricted funds	24,642,166	21,949,126	11,030,246	(85,106)	57,536,432
Special and designated funds	–	1,418,284	2,456,831	(1,418,284)	2,456,831
General funds	–	20,964,640	514,778	(18,920,067)	2,559,351
Total funds	**24,642,166**	**44,332,050**	**14,001,855**	**(20,423,457)**	**62,552,614**

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 gift-aided to 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 biennially a 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 2019	RAE Trading Ltd		Queen Elizabeth Prize for Engineering Foundation	
	2020	2019	2020	2019
	£	£	£	£
Total incoming resources	1,369,489	1,365,884	909,900	894,959
Total resources expended	(1,141,577)	(1,097,046)	(1,029,443)	(2,006,387)
	227,912	268,838	(119,543)	(1,111,428)
Total investment (losses)/gains	–	–	(1,978,533)	1,170,719
Net funds before gift aid	227,912	268,838	(2,098,076)	59,291
Gift aid to Royal Academy of Engineering	(227,912)	–	–	–
Retained net funds for the year	–	268,838	(2,098,076)	59,291
The aggregate of the assets, liabilities and funds was:				
Assets	426,505	638,821	22,789,247	25,206,222
Liabilities	(198,493)	(369,883)	(85,106)	(404,006)
Funds	**228,012**	**268,938**	**22,704,141**	**24,802,216**

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

	Academy	
	2020	2019
	£	£
Gross income	48,117,294	35,397,281
Retained net funds for the year	(880,637)	815,245

Note 19 – Related party transactions

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

	Sales	Salary recharges	Management charges	Debtors	Creditors
	£	£	£	£	£
Queen Elizabeth Prize for Engineering Foundation	–	323,636	182,709	37,319	–
RAE Trading Limited	270,220	–	214,000	24,686	21,475

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

Note 20 – Subsequent events after balance sheet date

Prior to the balance sheet date, the outbreak of the coronavirus and associated government measures to control the virus had a significant impact on the Royal Academy of Engineering's operations, as described in detail at the beginning of this report. The effect of these measures will continue to be felt subsequent to year end for months to come.

The Academy's building Prince Philip House has remained closed to staff with only occasional inspection visits, all staff have been working from home in line with government advice. There has been a successful transition to remote working using existing information technology infrastructure.

Academy investments General fund (Charity) were valued at £23,031,014 on 31 May 2020, an increase of £2,066,374 since the balance sheet date.

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

Bristows
100 Victoria Embankment
London EC4Y 0DH

Womble Bond Dickinson
4 More London Riverside
London SE1 2AU

Auditor

BDO LLP
55 Baker Street
London W1U 7EU

Investment advisers

OLIM Limited
Pollen House
10–12 Cork Street
London W1X 1PD

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, Membership and 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 composed of Fellows. The members of the Trustee Board during the year were:

Officers

President and Chair of Trustee Board

Professor Dame Ann Dowling OM DBE FREng FRS (retired 30 September 2019)

Professor Sir Jim McDonald FREng FRSE (appointed 30 September 2019)

Vice-Presidents

Naomi Climer CBE FREng
Vice-President for Fellowship Engagement

Professor Iain Gray CBE FREng FRSE
Vice-President for Committee Coordination

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

Professor Sir Jim McDonald FREng FRSE
Naomi Climer CBE FREng
Professor Iain Gray CBE FREng FRSE
Sir Simon Bollom KBE CB FREng (appointed 30 September 2019)
Professor Peter Goodhew CBE FREng
Dr Martin Grant FREng
Dame Judith Hackitt DBE FREng
Professor John Loughhead CB OBE FREng (appointed 30 September 2019)
Professor Geoffrey Maitland CBE FREng
Professor Liz Tanner OBE FREng FRSE
Professor Jeremy Watson CBE FREng (appointed 30 September 2019)
Professor Stephen Williamson FREng
Professor Stephen Young FREng

Other Trustees who served during the period of the report:
Professor Colin Bailey CBE FREng (retired 30 September 2019)
Dr David Hughes FREng (retired 30 September 2019)
Dr Bob Joyce FREng (retired 30 September 2019)

Image opposite © Institution of Engineering and Technology/Linda Bennett

Royal Academy of Engineering

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
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London SW1Y 5DG

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@RAEngNews

Registered charity number 293074