



Annual Report 2021





Trustees' Annual Report and Financial Statements for the year ending 31 December 2021

Contents

1 Objectives and Activities,
Achievements and
Performance

14 Plans for 2022

16 Structure, Governance
and Management
Constitution

34 Financial Review

38 Independent Auditors'
Report

42 Financial Statements
and Notes

Objectives and Activities, Achievements and Performance

The Institute of Physics (IOP) is the national physical society for the UK and Ireland. The objective of the IOP, as stated in our Royal Charter, is to promote the advancement and dissemination of knowledge and education in the science of physics, pure and applied, for the benefit of the public and the members of the IOP.

The trustees confirm that they have referred to the Charity Commission and the Office of the Scottish Charity Regulator (OSCR)'s guidance on public benefit when reviewing the IOP's aims and objectives and in planning future activities. The IOP meets the public benefit test in the following ways:

- the advancement of education;
- the advancement of science;
- the advancement of community development; and
- the promotion of equality and diversity.

The IOP works to advance physics research, application and education, and engages with policymakers and the public, to develop awareness and understanding of physics.

The public benefit, which our many and varied activities provide, can be summarised as follows:

- our support for learners, teachers and curriculum development, in order to support universal access to quality learning pathways – academic and technical;
- continued improvements in the quality of physics teaching in schools and colleges;

- our focus on building a more diverse, inclusive and vibrant physics community. We actively seek to encourage students from under-represented groups to study physics beyond the age of 16, and work relentlessly to break down barriers so all pupils can have a high-quality physics education;
- our publication of physics journals, books, magazines and websites, and the scientific meetings and conferences we arrange. These bring high-quality physics research to a wide audience, ensuring the latest physics developments are seen, shared and built upon. IOP Publishing continues to develop an Open Physics initiative which is intended to support greater access, transparency and inclusivity across physics research;
- our efforts to connect physicists working in all sectors, to drive innovation and support the delivery of ground-breaking technologies that will help shape the economies of the UK and Ireland;
- our work to raise public awareness of the value of physics. By showing how physics affects all of our lives, we spark interest in the subject and encourage more people to get involved in it;

- our events and conferences support a thriving physics ecosystem, bringing together the community from across the UK, Ireland and internationally, to share knowledge about the discipline and its applications, explore collaborations and provide networking opportunities; and
- our work to continually increase professional and ethical standards across the physics community, driving excellence and supporting inclusive workplaces.

It is vital that financial concerns do not stop people from engaging in physics. With that in mind, we offer concessionary IOP membership rates for anyone earning less than £21,000 per year. Undergraduates, trainees and apprentices are able to join the IOP for £15. Our Benevolent Fund provides financial support for IOP members and, during 2020 and 2021, the Benevolent Fund was able to offer assistance to members who were financially impacted by COVID-19. As part of our commitment to support scientific research globally, researchers in many lower income countries are able to access our subscription journals, or publish in our open access journals, at a discounted rate or for no cost.

The IOP works to advance physics research, application and education, and engages with policymakers and the public, to develop awareness and understanding of physics.

Transforming how we work to achieve our ambitions

2021 marked our second year of working towards the aspirations set out in Unlocking the Future, our strategy for 2020-24. The strategy sets out how – in the face of unprecedented challenges – we can develop and support a thriving physics ecosystem, unlocking the future for those working in physics across the UK and Ireland and their work at home and around the world. It describes the vital role physics can play in tackling challenges from safeguarding energy supplies to decarbonising economies, and defines our aim to make the UK and Ireland fit for a new industrial era of science, technology and engineering.

The level of ambition set out in Unlocking the Future requires profound change at the IOP. It requires us to shift from being predominantly a delivery-focused organisation to one that uses our convening and influencing power to create sustainable, systemic change. It requires us to develop powerful cross-sector partnerships, in the UK and Ireland and around the globe. It requires us to engage with and support our members and stakeholders more closely than ever. And it requires us to build an evidence base to measure the impact of our work and inform future decisions that will unlock the potential of physics for society.

This review tells the story of all of these processes gaining ground as we reshaped our work to achieve our ambitions. It also covers a period, of course, when COVID-19 continued to have a significant impact on our work and on society more widely. As in 2020, this led us to both listen to and focus on the changing needs of the physics community, and to use the opportunity to reflect on how we can work most effectively in the future. As the IOP shifted and uncertainty persisted all around us, the level of impact reported here is testimony to the dedication and determination of the entire IOP community.

Unlocking the future: in summary

Our strategy identifies three key challenges that present the greatest barriers to unlocking the potential of physics and its impact in society:

Diversity and skills

We want to build a thriving, diverse physics community so everyone, regardless of background, has access to world-class physics education and training.

Unlocking capability

We want to ensure the UK and Ireland are able to realise the full societal and economic benefits of the new industrial era.

Public dialogue

We want to show the impact of physics on people's lives, to enable informed public debate on funding and policy.



To meet these challenges, we have six aspirations for the changed world we want to see at the end of the strategy period. This is a broad and ambitious strategy and our aspirations are also ambitious.

1. Every secondary school pupil in the UK and Ireland will have access to a specialist physics teacher.
2. Girls will make up at least 30% of those taking physics at age 16-19 and there will be double the current number of young people from black and minority ethnic and lower socio-economic backgrounds.
3. There will be clear roadmaps and funding commitments from the UK and Irish Governments that propel research and development investment towards the Organisation for Economic Co-operation and Development average of 2.4% of gross domestic product.
4. Double the current number of people will be employed in technical roles in physics-based and engineering businesses and the number of those on physics-based science apprenticeships will have increased by a factor of 100.
5. Our publishing services to the worldwide physics community will have further improved such that the number of scientists publishing their research in our journals will grow by 25%.
6. 10% of the population will have a meaningful engagement with a physics-based public event and 1% will have sustained contact with physics.

Throughout 2021, we continued to implement our programmes of work to implement the strategy. Throughout this review, we describe the impact our programmes enabled us to deliver in 2021.

Supporting young people to change the world by continuing physics beyond the age of 16

The message behind our Limit Less campaign is simple: we believe there are no limits to what can be achieved with physics, or who should do it.

But too many young people are put off by misconceived ideas about physics or are denied the opportunity to study physics because of prejudice and stereotypes. So, throughout 2021, we kept spreading our campaign message and encouraging young people to change the world and fulfil their potential through physics.

Our 2021 Limit Less Careers Week included online panel discussions on climate change, physics in medicine, and robotics and artificial intelligence. Led by 33 physicists from around the world and from a wide range of backgrounds, the sessions were designed to showcase the many career options physics opens up. A total of 885 students and teachers from 74 schools attended the events, hearing about everything from life as an oceanographer on a North Sea trawler to the intricacies of building robots.

We also published a range of reports entitled Teaching Without Limits, which explore the stereotypes and barriers students face in schools across the UK and Ireland, including at primary schools.

The reports explain that girls, young people from disadvantaged backgrounds, disabled young people, LGBT+ young people and young people of Black Caribbean descent are less likely to do physics and more likely to face a hostile environment when they do. To help overcome this, the reports encourage schools to sign up to the IOP's ten-point manifesto for change, and to ensure that whole school communities – including parents, carers, students, staff and teachers – are focused on inclusion and equity. The feedback from these reports has been overwhelmingly positive, and they will now form the basis of our engagement to spread the Limit Less message in schools.

As we looked to introduce physics to the widest possible audience, we also took to TikTok in 2021, with instant success. We teamed up with social media influencers to make short films showing, for example, why physics makes it possible to stand on open boxes of eggs without the eggs cracking. The films were watched over 700,000 times, spreading the message around the world that physics is for everyone.

And we formed partnerships far beyond the world of physics: with the National Literacy Trust, for example, and the Founders4Schools charity. It was one more way we worked to make sure as many young people as possible understood that they can change the world through physics.

Building a diverse, thriving and effective physics community

Progress in physics is led by teams of dedicated people working together, and we will only solve the biggest challenges we face as a society if those teams are bursting with diverse opinions, diverse experiences and diverse perspectives. To that end, we worked with unprecedented ambition in 2021 to overcome barriers to inclusion, while also redoubling our efforts to ensure that everyone, regardless of their background, has access to world-class physics education and training. At the same time, we focused on inspiring the wider physics community – and supported our tireless members to do the same, even as COVID-19 continued to affect our lives.

Inclusion

Looking to make physics a welcoming, supportive and fair place for everyone, we published a new guide outlining the importance of equality, diversity and inclusion (EDI). In it, we made the moral, legal and economic case for EDI and suggested ways to make organisations more diverse. These included, for example, actively seeking out different points of view, using unbiased and gender-neutral language, and creating a safe environment for people to speak up and challenge others.

We looked to influence the approach to EDI in Europe too, hosting a workshop with the European Physical Society to help physics organisations across the continent create codes of conduct that help create more inclusive

and equitable working cultures. The event was attended by delegates from 19 countries.

And in England, we ensured the future of our Inclusion in Schools project by subcontracting its delivery to the Association for Science Education (ASE). The project aims to significantly increase the number of students from under-represented backgrounds who continue to study physics beyond the age of 16. Partnering with the ASE in this way reflects our ambition to move away from service delivery and to collaborate more with others as we strive to achieve wider change.

With help from a benefactor, we established a programme of encouraging, supporting and mentoring sixth form students from under-represented groups to apply and prepare for undergraduate physics courses. The philosophy and shape of the programme have since been picked up by the UK Government as part of their Levelling Up agenda, with funding of £8m.

Awards

Through our prestigious annual IOP Awards, we worked to ensure people from all parts of the physics community had a fair chance of being recognised for their achievements. In recent years, we expanded the Awards to celebrate those working in industry and business, as well as technicians, businesses and people who take physics to their wider communities. In 2021, we made it possible for the first time for people to self-nominate for nearly all of our awards. It was the latest step in our efforts to reward excellence everywhere in physics.

In total, we received 234 nominations for the 2021 IOP Awards and presented 61 prizes. We also began asking nominees for data on ethnicity, sexual orientation, age, gender identity and socioeconomic background, as we sought to keep building an accurate picture of the make-up of the physics community.

And we marked the tenth anniversary of the IOP Business Awards, again recognising the huge contribution that physicists and physics make to industry. More than 70 companies have now been celebrated in this way, with the 2021 winners' fields spanning quantum technologies, photonics, artificial intelligence and more.

Events

As ever, our Special Interest Groups, Nations and Branches went to great lengths to stimulate and support a high-performing physics sector in 2021. Together, we delivered a pioneering programme of member-led events and activities for members and the wider community, despite the challenges presented by the pandemic. The IOP conferences team supported the delivery of 124 events – close to double the total of 64 in 2020 – and these were attended by nearly 17,500 people, compared with just under 11,000 in 2020. In 2019, the team supported the delivery of 78 events, attended by 4,973 people.

Highlights included the member-led Physics and the Green Economy conference. Held immediately after the COP26 climate conference in November, the event examined one vital question: how can physics and physicists create a thriving, low-carbon, environmentally friendly and socially inclusive economy? With over 250 people registered and nearly 60 speakers, it was one of an increasing number of blended events, with delegates able to choose to attend plenary sessions and panel discussions online or in person.

Teaching of physics

Another central element of our work in 2021 involved ensuring that physics teaching is an urgent priority. A critical skills deficit continues to exist, with serious shortages of teachers with a science background in primary schools and a lack of specialist physics teachers in secondary and further education. Ongoing professional development for teachers is also inconsistent and inadequate. We continued to respond to this major challenge in multiple ways.

In late 2020 we published *Subjects Matter*, which urged policy makers across the UK to 'level up' student learning outcomes by backing a new subject-specific programme of support and professional development for teachers. This major piece of work was born of collaboration, with contributions from over 50 educational organisations, and in 2021 it had significant impact at the Department for Education (DfE) in England. It has become a reference point for planning the future of science continuous professional development (CPD) and the DfE has since restructured its programmes of

subject-specific CPD in the sciences with a major invitation to tender for a large, integrated programme of support in which they have encouraged bidders to adopt the systematic approach outlined in *Subjects Matter*.

We continued our wide-ranging efforts to improve the provision of physics education and training. This included establishing new retraining courses for biology and chemistry teachers who teach physics, as well as exploring ways to recruit physics teachers from new areas, such as the engineering sector. And in another example of our shift towards influence, we also subcontracted the delivery of our Stimulating Physics Network to STEM Learning in 2021. This will ensure the continued success of this programme, which aims to increase the number of pupils progressing to A level physics, while also enabling us to broaden our work to keep building a diverse, thriving and effective physics community.

Policy

Finally, we responded to the inquiry into equity in the UK STEM workforce carried out by the All Party Parliamentary Group on Diversity and Inclusion in STEM. Our response highlighted that there continue to be too few women, too few Black people, especially of Black Caribbean descent, too few people with disabilities, too few LGBT+ people, and too few people from less well off or disadvantaged backgrounds working in physics. The diversity of thought that makes for better physics is currently narrower than it both could, and should, be. We made a number of recommendations to improve this, from encouraging the physics community to collect data on diversity, so that we can monitor progress within the sectors, to creating a more inclusive environment, for example by ensuring young people have access to a specialist physics teacher.

And we also responded to a number of consultations and reviews in the area of education reform, to ensure any changes would not disproportionately impact students from under-represented groups, and that students from all backgrounds have access to high quality education in physics, and attractive options to build on that education. This included: submitting

our views to DfE's review of post-16 qualifications at level 3; submitting our views to DfE's post-qualification admissions reform; and responding to the joint DfE and Ofqual consultation on alternative arrangements for Summer exams.

Unlocking the full value of physics to society and the economy

One of the three key challenges identified in our current strategy – along with increasing diversity and skills and inspiring public dialogue – is unlocking the capability of the UK and Ireland to realise all of the benefits that physics can offer. In 2021, we took on this challenge by undertaking a range of landmark research studies. Together, they helped build an extensive and up-to-date picture of the physics landscape in the UK and Ireland. This gives us the insight we need to push for clear roadmaps and funding commitments from both countries' governments, to ensure research and development (R&D) investment increases to reach 2.4% of GDP.

To understand more about companies that use physics innovation in their work, we commissioned CBI Economics to survey physics-based businesses. We wanted to understand the level of innovation taking place, the challenges experienced by businesses and the opportunities to increase innovation and investment. The resulting report – Paradigm Shift – showed that while R&D is a strategic priority for the vast majority of physics-based businesses, it involves numerous challenges. Companies highlighted the need for more early-stage funding, more long-term funding and more specialist facilities, as well as highlighting the serious risks presented by skills shortages.

We also commissioned research to measure the value of physics-based industries in the UK. These reports will stretch back two decades and provide us with up to date insights on the contribution of physics-based industries to the economy, employment and R&D investment.

The third focus area for our 2021 research was on workforce skills. We commissioned Emsi Burning Glass to provide a new level of understanding into current physics-related skills in the UK and Ireland and to explore future demand for skills. The first

summary report is focused on current skills and was published at the start of 2022. Emerging findings already highlighted significant unmet demand for physics skills, coupled with a strong, sustained growth in the need for these skills.

The in-depth and wide-ranging insights this research has provided into innovation, the economic role of physics and the state of the physics workforce will now guide our work to influence government policy in 2022 and beyond. The emerging findings were already used to inform our submission to HM Treasury ahead of the 2021 Comprehensive Spending Review. By evidencing how investment in physics is a catalyst for innovation and growth, we called on Government to unlock the resources needed to unleash a new wave of innovation and make sure everyone in every part of the UK can realise the full benefits of the societal and economic revolution and recovery that science can deliver. Despite the challenging fiscal situation, the package of spending announced by the Government was broadly welcomed by the science community, including the IOP. In particular, Treasury's continued commitment to achieving annual investment of 2.4% of GDP in R&D by 2027, was seen as a positive outcome, although it is disappointing that the £22 billion public R&D investment target was delayed from 2024-25 to 2026-27.

We have a strong focus and track record in building international cooperation, and we were also awarded £160,000 by the Department for Business, Energy and Industrial Strategy in 2021. The funding is intended to help increase physics research partnerships between the UK and five countries in Africa. These partnerships will only increase the impact of physics on the UK economy.

Showing the impact of physics and inspiring informed public debate

One of our aspirations is that, by 2024, 10% of the population will have a meaningful engagement with a physics-based public event and 1% will have sustained contact with physics. In 2021, we moved closer to achieving that goal using the power of podcasts and by starting conversations in communities.

We released the second series of our podcast, Looking Glass, in July 2021. Entitled 'A Green Future', the series focuses on the climate crisis and how physics can help power a new green economy. Episodes have been downloaded over 41,000 times – twice the total for the first series – and in 50 countries. The majority of downloads have come from fans of political, social and historical podcasts, which suggests we are succeeding in our goal to reach audiences beyond the physics community.

Meanwhile, our pilot project Communities in Conversations brought together physicists and community groups to share ideas and discuss the role of physics in everyday life. We are running the pilot together with Belong, the cohesion and integration network, and the first conversations were held with the Women's Blether Group in Glasgow. After four sessions in a local community centre and one at Whitelee Windfarm, south of Glasgow, the women's group members and the scientists both said they had developed a fresh outlook on the impact of physics. Similar conversations are now booked for Rochdale and Coventry in 2022, with plans to extend into Wales and Ireland too.

We also launched a range of public engagement activities with our local community in 2021. As part of the 11 by 11 cultural scheme run by Islington Borough Council, we spent a full week running activities in a local school focused on the cities of the future. And our winter activity pack, complete with snowball slingshot experiment, was launched to help local primary age children amid concerns about education suffering during the pandemic. Both activities had strong links to our Limit Less campaign, as we worked in all kinds of ways to help young people fulfil their potential through physics.

Becoming a stronger organisation to deliver on our strategy

As we seek to fulfil the ambitions of our strategy and achieve impact on a greater scale than ever, we must continue to modernise and adapt our own working practices. In 2021, this included benchmarking our commitment to diversity, moving towards a far more flexible working model and transforming the technology and systems we rely on to work efficiently.

In August, we were awarded Juno Practitioner status in recognition of our commitment to gender equality. This status forms part of Project Juno, the award scheme we set up to recognise university physics departments and schools of physics that take action at all levels to address gender equality and foster a more inclusive working environment.

It was one of many ways we worked to ensure the IOP continued to become more welcoming and supportive to people from all backgrounds in 2021. The IOP Council also appointed Professor Helen Gleeson to the new role of Representative to Council for Inclusion and Diversity. And we participated in the Royal Academy of Engineering's Diversity and Inclusion Progression Framework benchmarking exercise. This will enable us to understand where we are successfully removing barriers to inclusion and where we need to do more.

Also during 2021, we launched a new project, The Future of Work, that is already transforming everyday life at the IOP. Following consultation across the organisation to identify how people now want to work, all IOP staff are able to work from any location and to choose their own working hours. It is an approach centred on flexibility, empowerment and trust, and one that reflects our commitment to innovation and to working in new ways to achieve more. We began putting the necessary support and infrastructure in place in 2021 and will continue to learn and implement this new way of working throughout 2022.

Being able to operate in this way depends on effective technology, and in 2021 we also improved and updated many of our core systems. This included cleaning all of the data in our customer relationship management system and significantly upgrading its functionality, both of which mean we can now engage with our members and stakeholders more effectively. We also moved much of our IT infrastructure into the cloud. As well as supporting our new flexible working model, this aligns with our ambition to drive 20% efficiencies in our business operations by 2024. It is an exciting time of rapid evolution for the IOP, and we will continue to unlock our own potential as we strive to meet our strategic ambitions.

The IOP Challenge Fund

To underline our own commitment to help resolve some of the world's most acute challenges through physics, we launched our £10m IOP Challenge Fund in 2020.

Through this significant commitment, we want to identify and support plans and initiatives with partners who share our ambition and sense of urgency. Formed using part of our operating budget that has now been turned into a competitive funding stream, the initiative will enable the IOP to offer grants, award contracts, work with partners and invest in organisations ready to accelerate large-scale change.

In 2021 we received and reviewed concept notes from organisations and consortia in response to calls for proposals on the implementation of our strategy, the development of a leadership commission for physics, innovative digital careers information and responding to the impacts of COVID-19 on the physics community. During the year we worked with several prospective partners to develop their ideas. We announced the first funding awards in 2022.

Supporting our members

As a professional body and membership organisation, it's up to us to help our members move physics forward, and to provide the support that fosters a more diverse, inclusive community with the skills to drive progress in our economy and our society.

This work takes many forms. In 2021, for example, it ranged from teaming up with the Royal Society of Chemistry to jointly organise the National Conference for Science Technicians, to our Benevolent Fund providing grants to physics PhD students who had lost income due to reductions in teaching during the COVID-19 lockdown. We engaged with members, including four fellows and three previous IOP technician and apprentice award winners, in a roundtable to help validate the scope of future technical skills work. We also supported a team of students who claimed first and third prizes in the international PLANCKS competition. It's our role both to inspire the entire physics community and to ensure the community can continue to thrive.

We also launched a new engagement programme in 2021 to increase collaboration between our members and our vice-presidents. As part of this initiative, our Vice-President for Education and Skills, travelled to Exeter in November with our Deputy Chief Executive. They visited the physics

department at the city's university to meet PhD students, joined a discussion on skills and career development at the Met Office, talked to teachers at a local school and met with members and students at the IOP's Festival of Physics at the University of Exeter. Visits like these are pivotal in helping us understand what matters most to our members, and more are planned for 2022.

During the year, we organised a series of webinars for students and early career members on topics including wellbeing and transferable skills. Feedback was very positive. We continued to maintain our COVID-19 information hub for members signposting to advice and information during this period. Our 2021 retention rate of 94% is testament to the loyalty of our members.

In response to feedback from members, we also began the process of improving the digital user experience for members in 2021. Our plans include integrating the membership website into the main IOP site and making it easier for members to access their accounts and member benefits and to make payments. We began in 2021 by shifting to a more user-friendly Quick Pay system for membership payments. Our next step, in 2022, is to partner with a digital agency to identify exactly how the digital experience needs to improve and then to put the right changes in place.

Our commitment to sustainability

In the year that the UK hosted the COP26 summit in Glasgow, we made a strong statement about our environmental responsibilities: committing to achieve net zero by 2030 and publishing a revised Environmental Statement. We also focused on our direct impact on the climate, beginning to measure our carbon footprint and putting measures in place to reduce it now and in the coming years. As plans are developed, we will consider the full impact on the financial statements.

Looking beyond our own organisation's role, we joined national physical societies from around the world in issuing a joint statement to work with global governments to tackle the climate crisis and bring about a new green economy: iop.org/strategy/physics-climate-change-sustainability/global-green-economy. The innovation and commitment this will require was explored in detail at our Physics and the Green Economy conference (see page 7), and we also engaged with young people at The Big Bounce event in Glasgow to discuss what scientists are already doing to reduce the worst impacts of climate change.

IOP Publishing Limited (IOPP), meanwhile, continued to fulfil its own commitment to a sustainable future throughout 2021. In May it signed up to the Publishers Compact, which aims to accelerate progress towards the Sustainable Development Goals (SDGs). It then backed up its pledge by bringing together its SDG-related content in an online Sustainability Collection.

IOPP also joined the DIMPACT project in 2021 to track its digital carbon impact. It became part of the Climate Change Knowledge Cooperative – a collaboration of leading academic publishers that publish simple summaries of climate change science. And it joined Publishing Declares, the publishing industry's first declaration on climate action.

IOP Publishing Limited (IOPP)

IOPP is a wholly-owned subsidiary of the IOP and a leading international scientific publisher. It works to expand the world of physics, providing impact, recognition and value for the scientific community and supporting more open access to scientific knowledge.

In 2021, 26% of its journal articles and all of its conference proceedings content were published on an open access basis. It increased its open access journal portfolio with the addition of new journals focused on environmental research and supported the American Astronomical Society as it made its own journal collection open access. It also introduced a new policy to encourage the sharing of data through data availability statements, which is now a requirement across its journals. Transformative agreements (TAs) continued to be the most sustainable vehicle in

the transition to open access. During the year it secured another five TAs, reaching agreements with 242 institutions in 14 countries.

In support of greater global equity and inclusion in publishing, researchers from low-income countries can now publish open access for free in any of its fully open access or hybrid open access journals. It waived £1.2m of article publication charges for open access articles across 64 countries. In April, it implemented a new name change policy to enable authors to change their name on previously published research.

With the need for rigorous peer review remaining as important as ever, IOPP continued its focus on improving the quality and efficiency of the process and offering more support to reviewers. It expanded access to its peer review excellence programme for researchers globally with the launch of a state-of-the-art peer review eLearning hub. It also continued to roll out double-anonymous peer review across its entire journal portfolio, meaning the identities of both author and reviewer are concealed. The approach reflects its commitment to increasing diversity in science and was received extremely positively.

IOPP continued to strengthen connections across the globe through a range of initiatives to share knowledge and collaborate. As an example (and in line with its own sustainability commitments, which are described on page 11) IOPP also arranged the inaugural Environmental Research virtual conference in 2021. Held over five days in November, it brought together leading environmental scientists from around the world to share knowledge and address many of the most important challenges facing our planet today.



Plans for 2022

This year sees us reach the mid-point of our five-year strategy. We have already laid significant foundations to help achieve our strategic goals. And, as we move into 2022, and as the impact of COVID-19 on our work hopefully recedes, we will continue to build on the momentum we have created. With our unique capacity to convene key players from education, academia, industry and government, we will achieve lasting impact for the future of physics, for the physicists we represent and for our economies and communities.

We are committed to being flexible and agile across all of our work, giving us the ability to test new approaches, gather evidence and respond rapidly to what we find. This approach will shape our organisational priorities for 2022 which will include:

- Working with our members and networks to influence and shape the most pressing debates in physics
- Improving our engagement with members and supporting our community to thrive
- Developing an increased number of strategic partnerships to further bolster our influencing work
- Driving 20% efficiencies across our business operations
- Strengthening the structure of our teams and providing exceptional development for our people.

Following the UK Spending Review and COP26 in 2021, we are continuing to work with the trustees to finalise and deliver on our Net Zero plan and activities. **The 2022 UK Autumn Budget will be a key moment**, and we will work closely with partners in government and in the community in the run-up, to help shape the narrative and advance priorities.

2022 will see us launch a major new programme of research and engagement to provide clear evidence of where investment in R&D has the most benefit, in areas ranging from tax policy to infrastructure spending and boosting skills. Building on the work we started last year, it will identify the barriers to commercial exploitation of scientific breakthroughs and recommend interventions to tackle them. We will consult with our members, experts and partners in an independent process overseen by a steering group of leaders in physics, both academic and commercial. We are also working with the Department for Business, Energy and Industrial Strategy to help ensure the voice of the physics community informs their new national strategy for quantum technologies.

As we **support young people to change the world by continuing physics beyond the age of 16**, our work is likely to range from political lobbying to puncturing stereotypes. Initial plans include building political pressure for increased recruitment of physics teachers, promotion of our social media and journalism guidelines to help challenge misconceptions about physics, and the recruitment of IOP members and other physicists to act as ambassadors for our Limit Less campaign. Last year's TikTok campaign helped demonstrate our message that 'physics is for everyone' and that it is relevant to all our lives – and we will build on this work in 2022.

As we seek to **show the impact of physics and inspire informed public debate**, we are already planning a third series of our Looking Glass podcast, focused on young people's climate concerns. We are also looking to continue our Communities in Conversations initiative in more locations across England and Wales. And, following the success of our Moon Adventure activities for families in 2019, we will launch another family-focused exhibition, this time focused on the role young people can play in shaping a safe, more sustainable and healthier world.

Lastly, we will redouble our efforts to **become a stronger organisation to deliver on our strategy**. We will continue to put the findings of our Future of Work consultation into practice, for example, while also enhancing both our equality, diversity and inclusion training and our development programmes for our staff. Our members are at the heart of everything we do, and we will continue our programme of improvements to enhance their experience of the IOP, from a significant programme of digital development, launching new web pages that bring together all our conferences and events, and of course working closely with our Council's Member Reference Group.

By working in all of these ways and many more, we will move ever closer to meeting the aspirations set out in *Unlocking the Future* – and rising to the strategic challenges and opportunities that guide all of our work.

Ukraine

On 3 March 2022 we issued a statement condemning the Russian invasion of Ukraine without reservation, stating: "Russia's actions are a violation of one of the most fundamental norms of international law that prohibit the use or threat of force by one state against another."

We have agreed to provide matched funding alongside the Benevolent Fund of up to £100,000 to provide support to professional physicists suffering hardship as a result of the war. IOP Publishing has given individuals from Ukraine affiliated with Ukrainian institutions free access to all scientific research that we

publish. We have also waived Article Publishing Charges for corresponding authors based in Ukraine to enable them to publish open access for free in any of our journals.

IOPP has also ceased all new sales of products and marketing to Russian/Belarusian institutions and paused the commissioning of new content from Russian/Belarusian institutions and conferences. As set out in the Group Corporate Structure section of this report, IOPP has two subsidiaries that are incorporated in Russia. At the time of publication of this report, it is keeping its relationships with Russian / Belarusian institutions under review.

Structure, Governance and Management Constitution

Constitution and Governing Document

Tracing its roots back to 1874 and the Physical Society of London, but originally incorporated in 1920, the IOP as currently constituted was established by Royal Charter (as subsequently amended) on 30 September 1970. This Royal Charter, which is supplemented by Bylaws and Regulations, is the IOP's governing document.

Registered Details

The IOP's registered name is the Institute of Physics. Its principal office address is 37 Caledonian Road, London N1 9BU.

The IOP is a charity registered in both England and Wales (no. 293851) and in Scotland (no. SC040092), and is therefore regulated by both the Charity Commission for England and Wales and the Office of the Scottish Charity Regulator. The Charity Commission for England and Wales is the IOP's lead regulator.

The IOP has applied for registration as a charity in the Republic of Ireland and has submitted an Expression of Intent for registration as a charity in Northern Ireland.

Professional Advisers

Details of the IOP's professional advisers are as follows:

Independent Auditors

PricewaterhouseCoopers LLP, 2 Glass Wharf, Bristol BS2 0FR

Investment Advisers

Lane Clark & Peacock LLP, 95 Wigmore Street, London W1U 1DQ

Tax advisers

Deloitte LLP, 3 Rivergate, Temple Quay, Bristol BS1 6GD

Solicitors

Eversheds, 1 Callaghan Square, Cardiff CF10 5BT

The IOP does not, however, have a sole appointed solicitor or formal panel of solicitors.

Annual General Meeting

Each year the IOP holds an Annual General Meeting, the rules of which are set out in the Bylaws and Regulations, at which all members are entitled to attend and vote. Membership fees, any changes to the Bylaws and the appointment of the auditors are approved by the membership at the Annual General Meeting.

The Council (Board of Trustees)

As set out in the Royal Charter, the IOP is governed by its Council. This consists of trustees elected from, and by, the membership, and up to three co-opted trustees who are appointed by the Council itself.

All members of the Council are also the trustees of the IOP. The Council has the ultimate responsibility for directing the affairs of the IOP, ensuring that it is solvent, well-run and delivering the charitable outcomes for the benefit of the public for which it has been

established. The Council sets and monitors the IOP's strategy which delivers these charitable outcomes.

Of the elected Council members, there are four senior officers and currently four vice-presidents. The senior officers are the President, President-elect, Honorary Secretary and Honorary Treasurer. The current four vice-presidents are for Business, Education and Skills, Membership, and Science and Innovation. There are ten additional elected Council members.

Co-opted Council members are appointed as required to cover areas of specific expertise.

There are currently nineteen members of the IOP Council (including one co-opted member).

The Council has also appointed a representative to advise it on equality, diversity and inclusion matters. Such appointee is not a trustee or member of Council.

The Council currently meets four times per year. All Council members give their time voluntarily and are not remunerated for their work on behalf of the IOP beyond the reimbursement of reasonable expenses.

Elections to Council

The rules governing the election of Council members are set out in the Bylaws. At the start of each year, the number of vacancies that will arise that year is identified. With delegated powers from the Council, the Nominations Committee then evaluates the balance of skills, knowledge, experience and diversity of Council members and, in the light of that evaluation, prepares a description of the role and capabilities required for each particular vacancy on the Council. A notice of vacancies, along with role descriptions, is published and members are able to nominate themselves.

The Nominations Committee then assesses the nominations received from members to confirm eligibility and that candidates meet the requirements laid out in the role descriptions. Where there is more than one nomination

for any vacancy a ballot takes place. Where there is only one nomination for any vacancy, that nominee is deemed elected, assuming they meet the eligibility and role description requirements.

Council members generally serve one four-year term. Exceptions to this are the President who serves a two-year term plus two years immediately preceding that as President-elect, and the Honorary Treasurer and Honorary Secretary who are eligible to stand for election for a second four-year term. Co-opted members are appointed annually for a maximum term of three years.

Induction and Training of Trustees

Formal induction is given to all new trustees, who are invited to attend meetings with IOP staff as part of the induction process. Training is also provided to trustees during their term of office.

Conflicts of Interest

Trustees have a duty to declare conflicts of interest so that they can ensure that at all times they are taking decisions that are in the best interests of the IOP.

The IOP maintains a register of trustees' interests, which is updated annually by trustees and as any changes are reported.

Procedures are in place for managing conflicts of interest that may arise during Council meetings.

Details of Trustees

Details of the trustees at the date of this Report are as follows. There are no corporate trustees or trustees holding property for the IOP.

Role	Name	Appointment Date	Retirement Date
President	Professor Sheila Rowan CBE FRS FRSE Hon. FInstP	1 October 2021 ¹	30 September 2023
President-elect	Professor Sir Keith Burnett CBE FRS FInstP FLSW	1 October 2021	30 September 2023 ²
Honorary Secretary	Professor Alison McMillan FInstP FIMechE FHEA CPhys CEng	1 October 2021	30 September 2025 ³
Honorary Treasurer	Professor David Delpy CBE FRS FEng FMedSci FInstP CPhys	1 October 2019	30 September 2023 ⁴
Vice-President for Business	Dr John Bagshaw FRAeS FInstP CEng CPhys	1 October 2020	30 September 2024
Vice-President for Education and Skills	Dr Lisa Jardine-Wright FInstP CPhys	1 October 2020	30 September 2024
Vice-President for Membership	Dr Elizabeth Cunningham MInstP FRAS	1 October 2021	30 September 2025
Vice-President for Science & Innovation	Professor Martin Freer FInstP	1 October 2019	30 September 2023
Ordinary Member	Dr Tariq Ali FInstP FRAS CPhys	1 October 2018	30 September 2022
	Rosalie Benjamin MInstP	1 October 2021	30 September 2025
	Professor Philip Burrows FInstP CPhys	1 October 2021	30 September 2025
	Dr Gayle Calverley-Miles MInstP MBCS MIScT CSci CPhys	1 October 2019	30 September 2023
	Dr Tamara Cleford FInstP CEng CPhys	1 October 2018	30 September 2022
	Professor John Dainton FRS FInstP FRSA CPhys	1 October 2021	30 September 2025
	Professor Claudia Eberlein FInstP CPhys	1 October 2020	30 September 2024
	Professor Martin Hendry MBE FRSE FInstP	1 October 2019	30 September 2023
	Dr Alix Pryde FInstP	1 October 2019	30 September 2023
	Jane Weir MInstP CSci CPhys	1 October 2021	30 September 2025
Co-opted Member	Professor David Riley FInstP	1 October 2021	30 September 2022 ⁵

1 Was President-elect from 1 Oct 2019 to 30 Sep 2021

2 To be President from 1 Oct 2023 to 30 Sep 2025

3 Eligible to stand for election for a second term

4 Eligible to stand for election for a second term

5 Eligible for re-appointment up to a maximum term of three years.

Details of the trustees during the reporting period but who have now retired are as follows:

Role	Name	Appointment Date	Retirement Date
President	Jonathan Flint CBE FREng FInstP	1 October 2019 ¹	30 September 2021
Honorary Secretary	Professor Brian Fulton FInstP CPhys	1 October 2017	30 September 2021
Vice-President for Membership	Dr Mark Telling FInstP CPhys	1 October 2017	30 September 2021
Ordinary Member	Dr David Boyce FInstP CPhys	1 October 2018	1 June 2021
Ordinary Member	Professor Wendy Flavell FInstP CPhys	1 October 2017	30 September 2021
Ordinary Member	Dr June McCombie MBE FInstP FRAS FRSC CPhys	1 October 2017	30 September 2021
Ordinary Member	Professor Anne Tropper FInstP FOSA CPhys	1 October 2017	30 September 2021
Co-opted Member	Dr Peter van der Burgt FInstP CPhys	2 May 2019	30 September 2021

1 Was President-elect from 1 October 2017 to 30 September 2019

Bylaws

In 2022 we have also commenced a review of our Bylaws to ensure they remain robust, reflect best practice and are appropriate for the IOP as it moves forward with its strategy. More information on this will be included in the Annual Report and Financial Statements for the year ending 31 December 2022.

Decision-making and delegations

Key strategic decisions affecting the IOP are made by Council but, in the interests of good governance and efficient management, it delegates consideration of matters in specialist areas to its standing committees under agreed terms of reference for those committees. It also delegates powers for executive and management decisions through the Regulations, agreed Annual Budget and Delegations of Authority Matrix. Details of the committees and senior management team are provided on the following pages.

Committees

The Council has a number of committees with delegated powers, thus ensuring that the required time and attention is applied to overseeing specific areas of interest. The terms of reference, delegated powers and membership of these committees are set by the Council. Committee membership is not limited to Council members, thus allowing for both wider representation from the membership and receipt of specialist external advice where appropriate.

The formal governance committees as at 31 December 2021 are set out on the following page and are marked in red.

Council's Member Reference Group

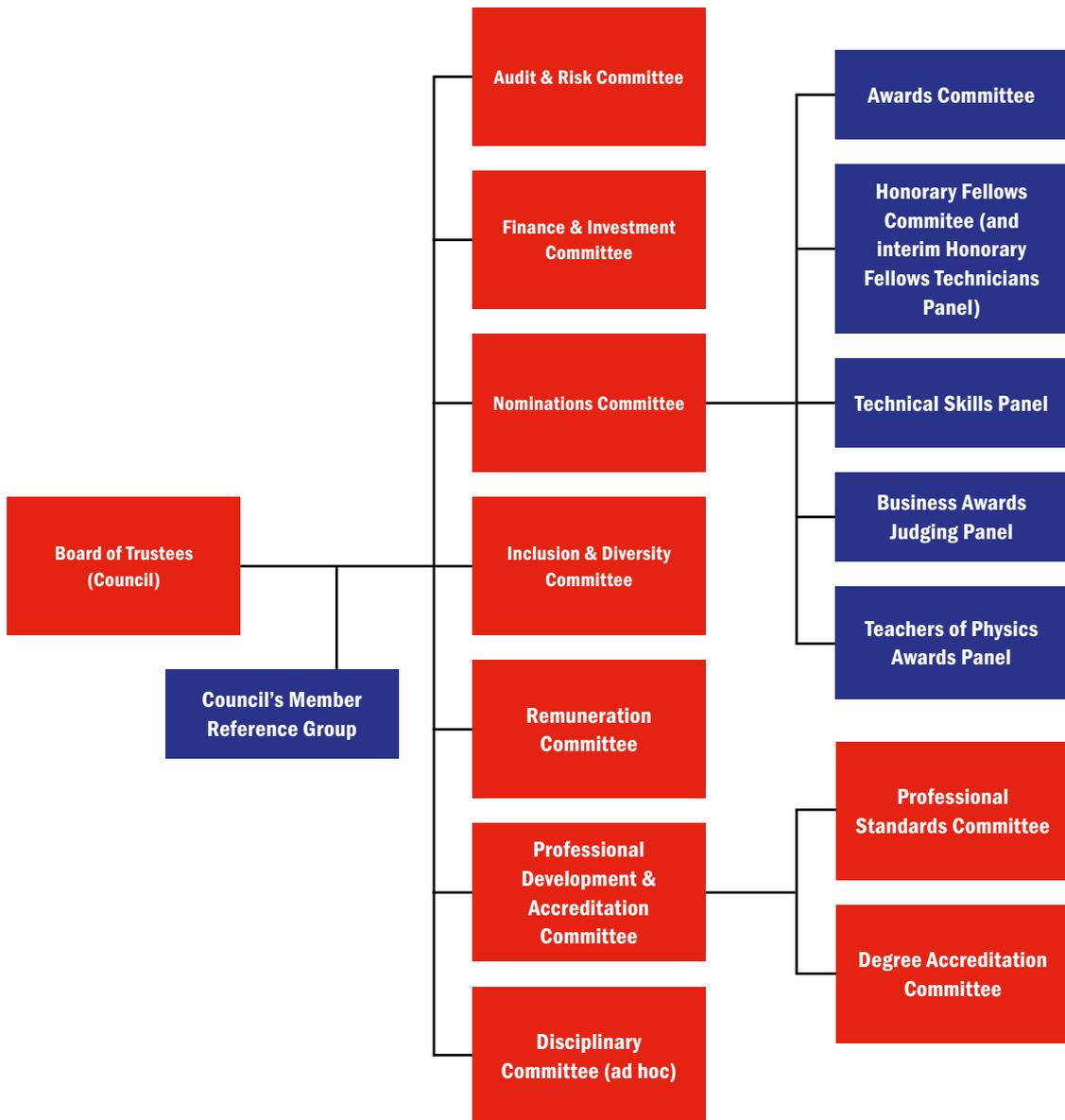
Following a review of governance in 2021, Council agreed to the formation of a Council's Member Reference Group (CMRG).

With a direct link into Council, the CMRG will bring experience and input to the IOP's approach to supporting and maximising member engagement, and to growing the membership to reflect the diversity of the physics community. It will also provide

Council with support in fulfilling its trustee role and responsibilities by sharing the views and experiences of IOP members to inform decision-making.

In order to ensure that we are reflecting the diversity of members, including the protected characteristics recognised under the Equality Act 2010 and our geographic spread across the Nations, Council-selected existing Groups will nominate the CMRG's members.

IOP Council and Committee Structure



Formal governance committees are shown in red.



Executive Management

The day-to-day management of the IOP Group and its activities is delegated to the Group Chief Executive Officer, supported by an executive management team.

The day-to-day management of publishing activities is delegated to the Chief Executive of IOP Publishing Limited (prior to 8 March 2021, this role was titled Managing Director of IOP Publishing Limited). IOP Publishing Limited has its own board of directors and a number of subsidiary undertakings that support the delivery of the publishing programme.

The Group Executive Management Team in 2021 and to the date of this report was:

Role	Name
Group Chief Executive Officer	Professor Paul Hardaker FInstP FRMetS CMet
Group Chief Financial Officer	Sukhraj Dhadwar FCCA (from 4 August 2021). The position was vacant from 1 January 2021 to such appointment.
Deputy Chief Executive, IOP	Rachel Youngman
Director of Policy & Public Affairs, IOP	Tony McBride
Director of Science, Innovation and Skills, IOP	Louis Barson (from 5 April 2021)
Managing Director, IOP Publishing Limited	Steven Hall (retired 5 March 2021)
Chief Executive, IOP Publishing Limited	Antonia Seymour (from 8 March 2021, previously Publishing Director)

In January 2022, it was announced that Tom Grinyer would be joining the IOP as the new Group Chief Executive Officer following Professor Paul Hardaker's announcement that he would be standing down. This appointment will start on 6 June 2022.

Remuneration of the Group Executive Management Team

The pay and remuneration of the Group Executive Management Team is set and monitored on behalf of Council by the Remuneration Committee. The Committee comprises the President, President-elect, Honorary Secretary, Honorary Treasurer, and separately appointed external advisors. The Committee commissions, each year, relevant external benchmarking information from both the publishing and charity sector to support its decision-making, and, when necessary, takes additional advice from specialist organisations.

Please see note 10 to the Financial Statements for further information.

Governance Review

In 2020 and 2021, the IOP undertook a comprehensive review and consultation with its members and the wider physics community of its governance and membership engagement arrangements. This was with a view to ensuring that, as it moves into its second century, it is, and remains, a modern, well governed, and responsive organisation which continues to serve the public and satisfy its charitable objectives as well as being one of which its members can be proud and where they can be engaged and have a voice on its future direction.

This has led to a number of changes to its governance structures which are summarised below, the majority of which were effective from 1 October 2021:

- a review and refresh of its committee terms of reference;

- the introduction of a new Finance and Investment Committee, in replacement of the former Resources Committee;
- the replacement of the Senior Officers' Committee with a separate pre-Council planning meeting;
- the creation of a Council's Member Reference Group; and
- the introduction of member advisory groups for business, education and skills, membership, and science and innovation.

Impact of COVID-19 on IOP Governance

The IOP has coped well with the imposition of social-distancing measures arising from the COVID-19 pandemic. The full governance cycle of Council and core governance committee meetings has continued uninterrupted, with all Council and core governance committee meetings being held virtually by video conference. There has been no significant impact on the IOP's governance or controls as a result of the COVID-19 pandemic.

Group Corporate Structure

The IOP has a number of subsidiary undertakings, as outlined below and in the structure chart on the following page.

To ensure clarity and appropriate governance, there are a number of agreements in place that define and describe the provision of intra-group services.

The main trading subsidiary undertaking of the IOP is IOP Publishing Limited (commonly known as IOPP).

IOPP is a wholly owned subsidiary of the IOP and is incorporated in England & Wales. Its principal activity is the publication and distribution of high-quality scientific journals, books, conference proceedings and magazines.

IOPP has a number of further trading subsidiary undertakings as follows:

IOP Publishing Consultants (Beijing) Co. Limited

IOP Publishing Consultants (Beijing) Co. Limited is a wholly owned subsidiary of IOP Publishing Limited and is incorporated in China as a wholly foreign-owned enterprise (WFOE). Its principal activity is to provide services to IOP Publishing Limited, including publishing consulting, electronic technology consulting, business consulting, market information consulting and corporate management consulting.

IOP Marketing and Promotion Services Private Limited

IOP Marketing and Promotion Services Private Limited is 99.99% owned by IOP Publishing Limited, with the remaining 0.01% of share capital owned by the IOP.

It is incorporated in India. Its principal activity is promotion and marketing services for IOP Publishing Limited.

Turpion Limited

Turpion Limited is a wholly owned subsidiary of IOP Publishing Limited and is incorporated in England and Wales. Following the transfer of its contracts with commercial partners to IOP Publishing Limited in the previous financial year, the principal activity of Turpion Limited is under review.

Turpion-Moscow Limited*

Turpion-Moscow Limited is incorporated in Russia and is a wholly owned subsidiary of Turpion Limited. Its principal activity is to provide publishing services to IOP Publishing Limited.

IOP Publishing Moscow LLC*

IOP Publishing Moscow LLC was incorporated in Russia on 7 September 2021. It is 99% owned by IOP Publishing Limited and 1% owned by Turpion Limited. Its principal activity is to provide publishing services to IOP Publishing Limited.

*See note on page 15.

IOP Publishing Limited also has a branch in Japan which is non-incorporated.

The IOP also has the following trading subsidiary undertakings:

IOP Publishing Inc.

IOP Publishing Inc. is a not-for-profit corporation of which the IOP is the sole corporate member. It is incorporated in the USA. Its principal activity is to provide publishing services to IOP Publishing Limited. All such services are provided solely in support of the IOP's charitable and educational activities.

IOP Business Publishing Inc.

IOP Business Publishing Inc. is a wholly owned subsidiary of IOP Publishing Inc. and is

incorporated in the USA. Its principal activity is to provide advertising-sales services.

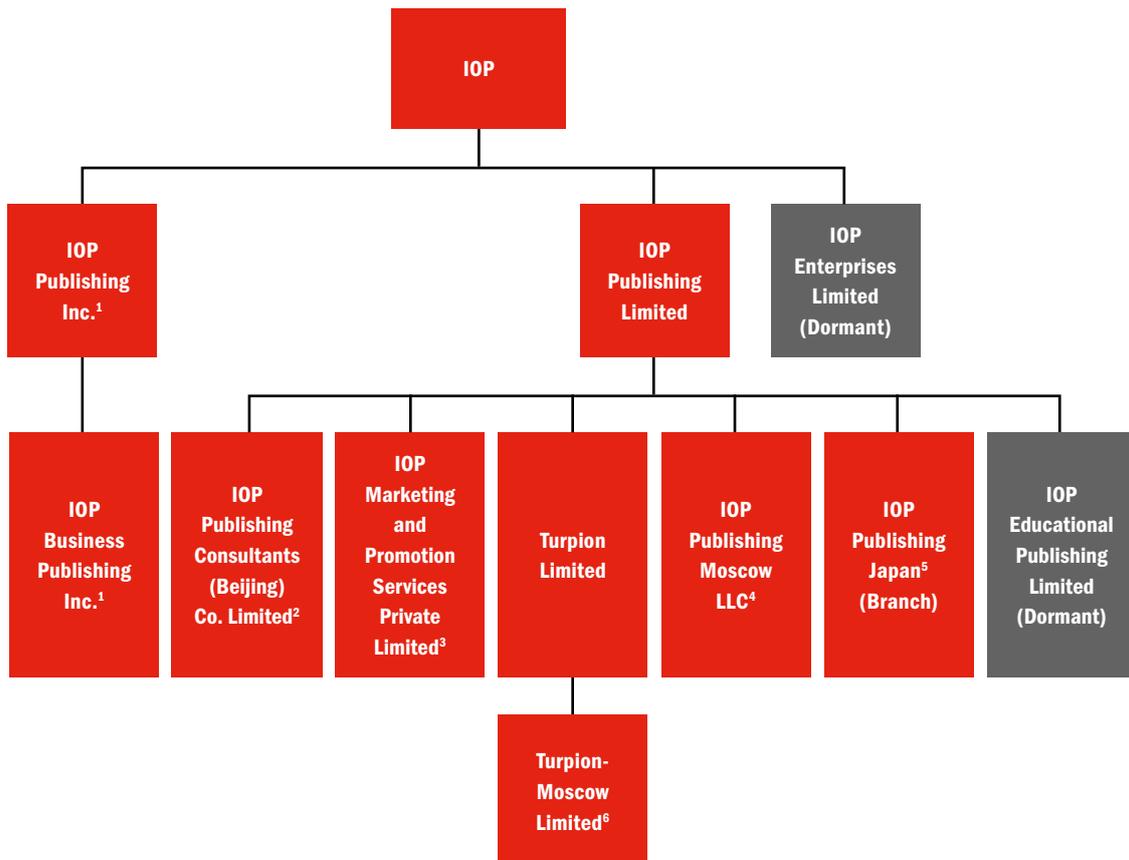
With the exception of IOP Marketing and Promotion Services Private Limited and IOP Publishing Moscow LLC, all companies are wholly owned subsidiaries of their immediate holding company.

There are two further Group subsidiary undertakings, both of which are currently dormant. These are:

IOP Enterprises Limited

IOP Educational Publishing Limited

IOP Group Corporate Structure



1 Incorporated in USA

2 Incorporated in China

3 Incorporated in India (99.99% owned by IOPP and 0.01% by IOP)

4 Incorporated in Russia (99% owned by IOPP and 1% owned by Turpion Limited)

5 Japanese Branch (non-incorporated)

6 Incorporated in Russia

Risk management

The IOP Council is responsible for ensuring that proper arrangements are in place for adequate risk management and control.

The Audit & Risk Committee provides an assurance role to Council on these matters and, amongst other things, has a remit to:

- advise Council on the IOP Group's overall risk appetite, tolerance and strategy;
- review and help to identify major areas of risk for the IOP Group and ensure processes exist to manage risk in those areas;
- keep under review the IOP Group's overall risk assessment processes that inform Council's decision making, ensuring both qualitative and quantitative metrics are used; and
- review the IOP Group's capability to identify and manage new risk types and bring to the attention of Council any areas of high risk and/or any anomalies brought to light through the audit process.

The IOP maintains a register of significant risks and maintains systems to control and manage them. The Audit & Risk Committee reviews the Risk Register, along with the plans and processes in place to manage and mitigate major risks, and then reports to Council. Council separately reviews the register on a periodic basis.

The trustees are satisfied that, whilst the pandemic has inevitably had, and will have, an impact on its activities and financial resources, the IOP remains in a strong financial position.

Specifically, Council and the Executive, supported by the IOP's COVID Management Team, continue to maintain a key focus on ensuring:

- the safety and wellbeing of the staff team and also that all key roles remain staffed, with a number of additional staff support measures having been continued in the

period including working from home DSE assessments, the provision of equipment to staff working from home where needed including chairs, desks and monitors, and an enhanced Employee Assistance Programme;

- that at all times contractual liability is mitigated, especially in relation to outstanding contracts for conferences, meetings and events;
- that at all times the IOP remains within agreed reserves limits for the investment portfolio and continues to hold a strong covenant for the defined benefit pension scheme; and
- that impacts on Gift Aid income and future cash flows are monitored on a regular basis.

It is not considered that a change to the Reserves Policy is required.

Brexit, and the end of the transition period, has posed, and will continue to pose, challenges to the physics and wider science community. However, whilst the situation continues to be monitored closely, particularly the impact on the international operations of its publishing businesses, Brexit is not considered a significant risk to the IOP itself, or its programmes of work across the Group.

In assessing the key risks identified below, the impacts of the COVID-19 pandemic and Brexit have been taken fully into account.

Risk Description	Risk Consequence	Controls, Action, Mitigation
Funders adopt Open Access policy mandates where publishers aren't compensated for their cost of publication, dissemination and investment in workflow innovation resulting in erosion of income and an unsustainable future for learned society publishers.	Material reduction in Gift Aid receipts.	Active review of strategy, Open Science credentials established, collaborations developed. Representations to policy makers and funders, engagement with funders, institutions and researchers, continued investment in open access publications, revenue diversification.
There is liability or reputational damage if the IOP or IOPP publish content that proves to be factually inaccurate or of poor scientific quality.	The IOP or IOPP's reputation as a trusted voice is damaged and/or it triggers legal action that results in reputational and financial loss.	Skilled staff with robust procedures to check, edit and sign-off material for public release, access to professional legal advice and membership of Committee on Publication Ethics (COPE), ensure robust peer review for content where possible, with appropriate procedures for independent editorial overview.
The IOP is unable to achieve funding requirements to deliver its strategy and operational business.	The IOP would be unable to support its full strategy as there would be a potential funding shortfall.	Regular review of performance of funding pipeline against target and review of range of funders and suitability of income; fundraising programme in place focusing on individual giving, trusts and foundations, competitive contracts and legacies; investments restructured to generate more of an annual income and growth from reserves; new fundraising targets set and robust five year plan in place.
There is a material IT security breach or critical IT system failure (inc. breach of digital systems).	Loss or corruption of data, unavailability of business critical applications, reputational damage, contractual breach, legal/regulatory fines, system restoration costs, productivity loss, unavailability of websites, use of IOP sites/ servers for malicious purposes.	Firewall in place with anti-virus, anti-malware and spam filters; daily backups at co-location and cloud and restoration tests for files and systems; internet and email and password policies; segregated network for staff and public; regular network audits; business continuity arrangements, regular communication with staff, greater use of software as a service, robust patch protocols, and specialist staff appointed.
The IOP is unable to attract/ retain talented staff and to adequately manage succession planning for senior managers.	Loss of business knowledge and expertise, potential reputational damage, recruitment costs, lost productivity.	Competitive reward and benefits package, excellent working environment, enhanced support for home working, HR Team strengthened, devolved decision making to encourage talent development and retention, improved systems and processes to secure corporate knowledge, active monitoring of turnover, new ways of working adopted, pay policy being reviewed.
There is a negative, inappropriate or defamatory post on an IOP social media account by an employee, IOP member or member of the public.	Reputational damage, potential liability if defamatory, impact on staff loyalty.	All relevant staff trained on use of IOP social media accounts, only dedicated staff with access to IOP corporate social media accounts, monitoring of IOP mentions on social media, agreed weekly social media schedule with escalation process, new social media policy to be launched.
There is a loss/ corruption of employee/ member or other personal data or other breach of data protection laws.	Significant regulatory fine, reputational damage.	Training of all staff undertaken; organisational policies and procedures in place; internal audit completed; internal staff expertise; specialist Compliance and Data Protection Manager appointed; strong IT controls implemented including firewalls, anti-virus, anti-malware and spam filters; and regular network audits and automatic network monitoring applied.

Our Commitment to Equality, Diversity and Inclusion

We believe firmly in equality of opportunity for all, confronting barriers to inclusion and participation wherever we encounter them. These core values are an expression of what we believe in and how we behave as an organisation. Our programmes are founded on the principles of Equality, Diversity and Inclusion (EDI), from our organisational values and strategy, to our work in schools, with the public and in our policy initiatives. From the Council and the senior leadership through the organisation, there is a deep-seated commitment to ensuring our physics community reflects the wider diversity we see in society and the significant value that brings to physics, the workplace and to society.

This year, a new role was introduced to support Council – the Representative to Council for Inclusion and Diversity. This role chairs the Inclusion and Diversity Committee where we regularly review and evaluate how we implement our diversity initiatives. The role will also strengthen the voices of the membership to Council, providing challenge and support on EDI topics.

For the first time, we have also set out the value and importance of EDI to physics that demonstrates the business case for EDI as well as setting out what our members and the wider physics community can do to support this.

In our Annual Report last year, we said that we were committed to demonstrating best practice and undergoing the same scrutiny of standards that we expect of others, such as Project Juno, our gender equality awards scheme that recognises physics departments and organisations that can demonstrate action taken to address gender equality in physics. Our internal Equality and Diversity Action Group completed the process of submitting the IOP to the Juno principles, with the target of becoming recognised as a Juno Champion by the end of our strategy. We have achieved Juno Practitioner and are on track with our commitment to be Juno Champion.

The IOP was amongst the first signatories of the Royal Academy of Engineering Diversity Concordat and the Science Council Declaration on Diversity, Equality and Inclusion and we continue to take a visible role in delivering on our commitments. We have delivered projects and publications that continue to lead the way in spreading good practice and making a significant contribution to the body of research available to the STEM community. We recognise that we need to continue to work to remove barriers to participation in any of our activities and that we ensure the principles of EDI are embedded within them. We build partnerships to work with colleagues, members, the wider physics community and, through our campaign Limit Less, with organisations in society to ensure that all that we deliver is truly inclusive.

You can find the document setting out the importance of EDI to physics here: iop.org/about/IOP-diversity-inclusion/importance-of-equality-diversity-physics.

Environmental Responsibility

The IOP recognises its environmental responsibilities and commitment to reducing environmental damage locally, nationally and globally. We are focused on four main areas of compliance: waste and energy reduction; personal responsibility; the role of physics to provide solutions; and meeting emission targets. Ultimately, we are seeking to reduce our carbon footprint from utilities and transport associated with our operations and events across the United Kingdom and Ireland to net zero.

We are also raising awareness of how activities and choices of individuals and other organisations carry an impact on the environment. We advise and support what they might consider doing to mitigate this impact. We want to lead the way and highlight what physics can do to help make buildings more efficient. Data captured on our own energy usage is shared through our education partners to help future planning and development in this field. We work with



our stakeholder organisations to influence positive environmental change and support organisations which are proactively being sustainable.

Our Environmental Statement can be found here: iop.org/environmental-statement.

Gender-Pay Gap Reporting

The IOP

The IOP has made a commitment to addressing diversity within the physics community and we recognise that the success of our work relies on our ability to recruit, nurture and retain the richest mix of talent.

Equity, diversity and inclusion is an integral part of IOP's strategy "Unlocking the Future". In 2021, IOP was awarded Juno Practitioner and has in place mechanisms to achieve equity and diversity in the workforce. This includes job evaluation through a bias free analytical scheme as well as staff networks and a development programme. An action plan is in place to support an application for Juno Champion within the current strategic period and to draw inclusion work together under an ESG framing.

The IOP does not have a statutory requirement to report on gender pay but, as part of its commitment to gender equality, it has undertaken the assessment. The average hourly rate in April 2021 was 11.49% lower for women based on mean hourly earnings and 1.41% lower based on median hourly earnings.

The median pay gap for full-time employees in the UK is 7.9% (Office for National Statistics, 2021).

The IOP mean gender pay gap has decreased from 16.86% in 2020 to 11.49% in 2021, which is a significant and welcome improvement.

Similarly, the median gender pay gap has decreased from 6.45% in 2020 to 1.41% in 2021, further confirming the progress made.

Indeed, across the quartiles, only the Lowest Quartile has not improved, with the Upper Middle quartile actually showing a reversal of pay gaps, wherein the women are earning on average slightly more than the men.

Actions already implemented to address the previously seen imbalance in the recruitment across grades include:

- strengthening the recruitment process to more consistently use structured interviews;
- standardising advertised salaries;
- anonymising applications received through our recruitment systems; and
- briefing agencies for a more diverse candidate pool.

We recognise that further steps are needed to address this gap.

Our priority action area for 2022 is to look at the gender pay issues in specific pay grades to identify appropriate interventions to bring about long-term improvements.

More generally, we will continue to update our approach to pay and terms and conditions by:

- reviewing the IOP's pay policy;
- reviewing our policies including using demographic data from our recruitment processes to give an insight into why we are appointing a higher percentage of women than men in the lower quartiles;
- reviewing the recruitment and promotion processes to increase the use of competencies, providing greater training of interview panels around bias, and reviewing advertising methods to include neutral wordings; and
- moving to a flexible way of working for all staff, ensuring everyone has choice around their hours and place of work from day 1 of employment.

Summary of April 2021 results – IOP

IOP	Lower	Lower Middle	Upper Middle	Upper	Across all quartiles
Women					
mean	£13.55	£18.94	£22.54	£31.61	£21.24
median	£13.57	£19.05	£22.67	£28.62	£20.73
number of staff	29	29	32	24	114
Men					
mean	£14.80	£19.08	£22.40	£35.10	£24.00
median	£14.98	£19.64	£22.55	£28.79	£21.02
number of staff	14	15	12	20	61
Pay Gap					
mean	8.45%	0.73%	-0.62%	9.94%	11.49%
median	9.41%	3.00%	-0.53%	0.59%	1.41%
Percentage of women employees	67.4%	65.9%	72.7%	54.5%	65.1%
Percentage of men employees	32.6%	34.1%	27.3%	45.5%	34.9%

IOP Publishing

Within the IOP Group there is a statutory requirement for IOP Publishing Limited to make a gender pay gap declaration. In IOP Publishing, women's mean hourly wage was 12.45% lower than men's (2020: 15.91% lower than men's) while women's median hourly wage was 18.29% lower than men's (2020: 17.3% lower than men's).

We remain confident that the gender pay gap is not an indication of our paying men and women differently for equivalent work. All our roles are measured through an objective job evaluation process, salaries are benchmarked using recognised third-party sources and our pay strategy is available for all staff to view.

To ensure continued emphasis on such matters, we will be continuing to deliver our Essential Management Skills modular programme for all people managers and the focus areas for this in 2022 are inclusivity, coaching and hiring skills, which alongside our existing modules and company behaviours will, we believe, make a positive contribution to our culture and practice.

The topic of gender pay is one part of a bigger diversity, equity and inclusion strategy that is being pursued in IOP Publishing. IOP Publishing is committed to applying its compensation policies fairly and consistently and ensuring pay equity: paying staff equally for the same or equivalent work, regardless of gender, or any other characteristic, so that we can recruit, nurture and retain a good mix of talented people.

Summary of April 2021 results – IOP Publishing

IOP Publishing	Lower	Lower Middle	Upper Middle	Upper	Across all quartiles
Women					
mean	£11.54	£15.38	£19.87	£35.27	£18.71
median	£12.10	£15.56	£19.51	£27.80	£16.31
number of staff	58	45	45	31	179
Men					
mean	£12.06	£14.69	£20.36	£31.48	£21.37
median	£12.22	£14.37	£21.29	£29.79	£19.96
number of staff	25	38	39	52	154
Pay Gap					
mean	4.31%	-4.69%	2.4%	-12%	12.45%
median	0.98%	-8.28%	8.36%	6.68%	18.29%
Percentage of women employees	70%	54%	54%	37%	54%
Percentage of men employees	30%	46%	46%	63%	46%

Anti-Slavery and Human Trafficking

The IOP is committed to prohibiting modern slavery and human trafficking in any part of its business, including in all supply chains. The IOP has a diverse supply chain, including suppliers of IT, print and editorial services, office equipment, catering services, building services, temporary recruitment services, and accommodation and venue facilities.

Our Anti-Slavery and Human Trafficking Policy reflects a commitment to acting ethically and with integrity in all business relationships and to implement and enforce effective systems and controls to prohibit slavery and human trafficking in supply chains and business.

To ensure that all companies in the supply chain comply with all obligations on anti-slavery and human trafficking, all relevant suppliers are issued with, and agree to comply with, the Anti-Slavery and Human Trafficking Policy, and appropriate obligations are included in contracts with them. Those obligations allow the IOP to secure assurances that those suppliers have appropriate measures in place in relation to their own business and supply

chains and commit to complying with all relevant legislation and codes of practice.

To ensure awareness and understanding across the IOP, staff are required to complete an online training package on our approach to anti-slavery and human trafficking.

Anti-Bribery and Corruption

We support and have an on-going commitment to carrying out our business fairly, honestly and openly.

We maintain policies and procedures to prevent bribery and have implemented an Anti-Corruption and Bribery Policy. We also have procedures and controls over expenditure, accounting, commercial and agent contracts to manage all forms of bribery and corruption risk.

As part of our zero-tolerance approach to bribery and corruption, we ensure that measures are in place so that staff and third parties understand what is and what is not permitted. As part of our induction programme, for example, we require new staff to complete a mandatory e-learning module on

bribery and corruption to enhance awareness and help deter bribery. As part of our due diligence procedures when contracting with key suppliers, we require them to commit to comply with all applicable bribery legislation and, where relevant, we review their policies in this area.

We maintain whistleblowing procedures for staff to report any allegations of wrongdoing and provide an integrated range of routes through which staff may report concerns.

Statement of Trustees' Responsibilities

Members of Council (who are the trustees of the IOP) are responsible for preparing the Trustees' Annual Report and the Financial Statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The law applicable to charities in England and Wales and in Scotland requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charity and the Group, and of the incoming resources and application of resources of the charity and the Group for that period.

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

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

The trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities Act 2011 and the Charity (Accounts and Reports) Regulations 2008. They are also responsible for safeguarding the assets of the charity and the Group, and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The trustees are responsible for the maintenance and integrity of the charity and financial information included on the charity's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgments and estimates that are reasonable and prudent;
- state whether applicable accounting standards, comprising FRS 102, have been followed, subject to any material departures disclosed and explained in the financial statements; and



Financial Review

Financial statements

The financial statements for the year ended 31 December 2021 are set out on pages 42 to 76. They were prepared applying accounting policies in accordance with UK Generally Accepted Accounting Practice, and comply with the Statement of Recommended Practice, Accounting and Reporting by Charities SORP (FRS 102).

Financial review

The IOP group

Some 94% (2020: 91%) of the group's incoming resources are generated from the activities of its trading subsidiary, IOP Publishing Limited.

Total incoming resources in the year for the group increased by £2.1m to £78.8m (2020: £76.7m). Income from scientific publications increased by £2.0m on 2020 to £71.7m, with a strong year for IOP Publishing Limited despite the continuing challenges from the COVID-19 pandemic. Income from other charitable activities remained consistent with 2020 at £4.9m (2020: £5.0m).

Further commentary on the activities of IOP Publishing Limited is shown below.

Total resources expended increased by £10.1m to £76.9m (2020: £66.8m) due to the growth of programmes within the IOP's 5 year strategy and the inclusion of a provision of £7.4m in respect of the potential outcome of a Normal Retirement Age equalisation review of the defined benefit pension scheme.

Further details are included in the Consolidated Statement of Financial Activities on page 42. The IOP's balance sheet is included on page

44. The IOP considers incoming resources, Gift Aid remitted from its subsidiaries and expenditure to be key performance indicators.

Debtors have increased from £16.6m to £18.6m at 31 December 2021, primarily due to the increase in debtors within IOP Publishing Limited.

Deferred revenue remains a key balance and has increased by £1.9m to £17.7m (2020: £15.8m), driven by the earlier invoicing in comparison to prior years. Deferred membership renewals for 2021 have increased slightly within the IOP compared to 2020 due to the full implementation of one time start date for membership renewals.

The cash and short-term investment position remains strong, with an increase from £28.6m at 31 December 2020 to £37.6m at 31 December 2021. The value of investments has increased by £2.9m to £25.9m at 31 December 2021 and the IOP's portfolio has benefited from the positive performance of the markets, particularly in the final quarter of 2021.

The group has made £0.4m of tangible fixed asset purchases during the year. Details on capital additions are given in note 15. We continue to use our operating surplus, alongside careful cash management, to meet the ongoing liabilities of the IOP.

The IOP's defined benefit pension deficit decreased in 2021 from £10.9m at 31 December 2020 to £3.6m at 31 December 2021 as the assets of the Institute of Physics Retirement Benefit Plan (1975) increased by £5.7m and the present value of liabilities decreased by £1.6m. This was due to the impact of changing market conditions on the Plan's liabilities, in particular rises in corporate bond yields which increased the discount rate,

contributions paid by the IOP and updates to mortality and salary assumptions. A provision has been made to allow for current uncertainty over the effective date of equalisation of the Normal Retirement Age of the scheme. The effective date may be deemed to be either 1 November 1991, 1 November 1994 or 31 October 1997. A prudent approach has been taken and the provision is based on the effective date being 31 October 1997 and therefore the maximum expected liability is provided for. In addition, the IOP made a £2m additional contribution in September 2021. Further details are given in note 23 of the financial statements.

During 2022, the IOP will be exiting the lease for its existing property in Bristol, which is the trading address of its subsidiary IOP Publishing Limited. In February 2022, the IOP signed a lease for a new property in Bristol.

The trustees have concluded that the group is a going concern and these financial statements have therefore been prepared on that basis. The strong performance of the group in 2021 and the positive net asset position at the end of 2021 support the trustees' conclusion.

The Institute of Physics (IOP)

In 2021 78% of the IOP's income was generated from Gift Aid from its publishing subsidiaries (2020: 78%). Other sources of income include income from members either as membership fees or for additional services and grants from government and other grant-awarding bodies.

Total resources expended have increased in the year from £18.3m to £26.4m, due to the growth of programmes within the IOP's 5 year strategy and the inclusion of a provision of £7.4m in respect of the potential outcome of a Normal Retirement Age equalisation review of the defined benefit pension scheme.

IOP Publishing Limited (IOPP)

The ongoing impacts of Brexit and the COVID-19 pandemic have continued to present challenges throughout 2021, however IOP Publishing generated turnover for 2021 of £73.9m (2020: £70.4m) which reflects a 5% increase on 2020 driven by growth across the

different business areas. The current year gross profit margin has experienced a small decrease to 91.2% (2020: 92.5%) flowing through to a slightly reduced operating margin for the current year of 28.3% (2020: 29.5%). Some relaxation of the COVID-19 restrictions on both national and international travel has meant that the cost decrease seen in 2020 has not been matched in 2021. In addition, the fluctuation in the USD exchange rate throughout the course of 2021 has resulted in a net foreign exchange loss for the year (2020: net foreign exchange gain) which has also impacted on margins.

IOPP pays all of its taxable profits to the IOP under the Gift Aid scheme. During the year, IOPP paid £21.2m (2020: £16.7m) of Gift Aid to the IOP.

Reserves and investment

The Charter and Bylaws confer power on the IOP to maintain income reserves. Council reviews at least annually both the IOP's continuing need for reserves and their appropriate level. The reserves policy set out below is based on, and is consistent with, guidelines on the subject issued by the Charity Commission.

The strategic reasons for the IOP to retain reserves, rather than simply spend all of its income as it arises, are, as stated in its Investment Policy:

- to be able to make short and medium-term expenditure commitments without the risk of short-term fluctuations in income forcing reduction in, or cancellation of, planned activity;
- to reduce the level of dependence on income from publishing; and
- in the event of a material and sustained fall in income from other sources, to provide sufficient reserves to enable the IOP to make the changes in its organisation and activities necessary to respond to this in an orderly and planned way.

The overall investment objectives of the IOP are to achieve a minimum net total return of

12 month LIBOR (London Interbank Offered Rate) +3.5%, after payment of fees over rolling three-year periods, using a diversified strategic asset allocation approach to minimise the risk for this level of return.

During the year the investment portfolio held by the IOP generated an unrealised gain to the group of £2.9m (2020: £1.2m). The IOP actively manages its investment portfolio.

After a review in 2019, Council agreed that there should not be one single aggregate level of appropriate reserves that should be held by the IOP, rather the reserves of the IOP should be segregated into separate categories where the amount of reserves held in each category should be calculated as an appropriate amount to address the balance of risks and opportunities facing the IOP in those categories. The agreed categories are the: operational reserve (free reserves); property reserve (specific reserve); and pension fund reserve (specific reserve). In defining this reserves policy, consideration has been given to the level of free reserves it is appropriate to hold in order to demonstrate appropriate financial management and sustainability.

The operational reserve will allow for short and medium term expenditure commitments without the risk of short term fluctuations in income forcing reductions in, or cancellation of, planned activity. It will also help fund strategic and business plan activities. The property reserve will have £0.25m invested per annum until the end of the current strategy for the development and maintenance of the IOP's property assets, whether freehold or leasehold. The pension reserve will have £1m invested per annum over the same period. This is in addition to the special annual contribution already made from the IOP to the defined benefit pension scheme, which is accounted for through the Statement of Financial Activities.

The required level of reserves at 31 December 2021 based on the current long-term plan, as modified by the 2022 budget, is between approximately £15.3m-£23.6m (2020: £18.5m-£24.6m). The current level of free reserves as represented by the IOP's investments is £25.9m (£22.9m unrestricted,

£3.0m restricted) (2020: £23.0m (£20.3m unrestricted, £2.7m restricted)), which is deemed appropriate given the IOP's commitments over the following 12 months.

The balances on the individual funds of the IOP at 31 December 2021 are considered adequate to meet their respective commitments.

Ethical investment policy

The IOP is a charity established with the objective of promoting the advancement and dissemination of a knowledge of and education in the science of physics, pure and applied.

The trustees would not want the investment decisions of the IOP to result in activities that compromise this objective. In the event that the trustees consider that any particular classes of investment choices conflict with this objective, they will provide a written list of such classes, or specific investments, to the investment managers and will require them to take such steps as are practicable and cost-effective so as not to invest in these areas.

Auditors

All of the current trustees have taken all of the steps necessary to make themselves aware of any information needed by the charity's auditors for the purpose of their audit and to establish that the auditors are aware of that information. The trustees are not aware of any relevant audit information of which the auditors are unaware.

By order of Council

Alison McMillan
**Professor Alison McMillan FInstP FIMechE
 FHEA CPhys CEng**
 Honorary Secretary
 12 July 2022

David Delpy
**Professor David Delpy CBE FInstP
 FRS FEng FMedSci CPhys**
 Honorary Treasurer
 12 July 2022



Independent Auditors' Report to the trustees of the Institute of Physics

Report on the audit of the financial statements

Opinion

In our opinion, the Institute of Physics' group financial statements and parent charity financial statements ("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 December 2021 and of the group's and parent charity's incoming resources and application of resources, and of the group's cash flows, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland", and applicable law); and
- have been prepared in accordance with the requirements of the Charities Act 2011 and Regulation 15 of The Charities (Accounts and Reports) Regulations 2008.

We have audited the financial statements, included within the Annual Report (the "Annual Report"), which comprise: the Consolidated Statement of Financial Activities incorporating a consolidated income and expenditure account for the year ended 31 December 2021; the Charity Statement of Financial Activities incorporating an income and expenditure account for the year ended 31 December 2021; the Balance Sheet at 31 December 2021; the Consolidated Statement of Cash Flows for the year ended 31

December 2021; and the Notes forming part of the financial statements for the year ended 31 December 2021, which include a description of the significant accounting policies.

Basis for opinion

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

Independence

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Conclusions relating to going concern

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group and parent charity's ability to continue as a going concern for a period of at least twelve

Independent auditors' report to the trustees of the Institute of Physics (continued)

months from the date on which the financial statements are authorised for issue.

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

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's and parent charity's ability to continue as a going concern.

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

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The trustees are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or any form of assurance 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 an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of 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 based on these responsibilities.

Based on our work undertaken in the course of the audit, the Charities Act 2011 requires us also to report certain opinions and matters as described below.

Trustees' Report

Under the Charities Act 2011 we are required to report to you if, in our opinion the information given in the Trustees' Annual Report is inconsistent in any material respect with the financial statements. We have no exceptions to report arising from this responsibility.

Responsibilities for the financial statements and the audit

Responsibilities of the Trustees for the financial statements

As explained more fully in the Statement of Trustees' Responsibilities, the trustees are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The trustees are also responsible for such internal control as they 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 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 and parent charity or to cease operations, or have no realistic alternative but to do so.

Independent auditors' report to the trustees of the Institute of Physics (continued)

Auditors' responsibilities for the audit of the financial statements

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

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' 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.

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

Based on our understanding of the group and parent charity/industry, we identified that the principal risks of non-compliance with laws and regulations related to tax legislation, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Charities Act 2011 and relevant regulations made or having an effect thereunder, including The Charities (Accounts and Reports) Regulations 2008. We evaluated the incentives and opportunities for fraudulent manipulation of

the financial statements (including the risk of override of controls) by the trustees and those responsible for, or involved in, the preparation of the financial statements, and determined that the principal risks were related to posting inappropriate journal entries to increase revenue or reduce expenditure, and applying management bias in accounting estimates.

Audit procedures performed included:

- Discussions with management and the trustees, including consideration of known or suspected instances of non-compliance with laws and regulation and fraud;
- Reviewing relevant meeting minutes including those of the Council and subsidiary board minutes;
- Evaluation of management's controls designed to prevent and detect irregularities, in particular the whistleblowing policy and employee code of conduct;
- Challenging assumptions and judgements made by management in their significant accounting estimates, in particular in relation to the valuation of partner accruals and the valuation of defined benefit pension liabilities; and
- Identifying and testing journal entries, in particular any journal entries posted with unusual account combinations.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Independent auditors' report to the trustees of the Institute of Physics (continued)

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the charity's trustees as a body in accordance with section 151 of the Charities Act 2011 and regulations made under section 154 of that Act (Part 4 of The Charities (Accounts and Reports) Regulations 2008) and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Charities Act 2011 exception reporting

Under the Charities Act 2011 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- sufficient accounting records have not been kept by the parent charity; or
- the parent charity financial statements are not in agreement with the accounting records.

We have no exceptions to report arising from this responsibility.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

Chartered Accountants and Statutory Auditors
Bristol

Date: 12 July 2022

Consolidated Statement of Financial Activities incorporating a consolidated income and expenditure account for the year ended 31 December 2021

	Note	2021 Restricted £'000	2021 Unrestricted £'000	2021 Total £'000	2020 Total £'000
Income from:					
Donations and legacies	3	-	5	5	9
Charitable activities:					
Membership		-	1,635	1,635	1,646
Programmes		299	2,941	3,240	3,343
Scientific Publications		-	71,730	71,730	69,707
Other trading activities		-	1,954	1,954	1,659
Investments	6	-	231	231	220
Other		-	-	-	106
Total income	3 & 5	299	78,496	78,795	76,690
Expenditure on:					
Raising funds		-	(81)	(81)	(64)
Charitable activities:					
Scientific Publications	7	-	(50,854)	(50,854)	(48,895)
Ecosystem	7	(291)	(4,219)	(4,510)	(4,754)
Productivity	7	-	(405)	(405)	(12)
Campaign	7	-	(645)	(645)	(498)
Public Dialogue	7	-	(381)	(381)	(212)
Transformation	7	-	(571)	(571)	(154)
Challenge Fund	7	-	(241)	(241)	-
Membership	7	-	(901)	(901)	(643)
Business operations	7	(78)	(9,759)	(9,837)	(10,399)
Other	7	-	(8,523)	(8,523)	(1,209)
Total expenditure	7	(369)	(76,580)	(76,949)	(66,840)
Net gains on investments	17	308	2,634	2,942	1,154
Net income		238	4,550	4,788	11,004
Other recognised gains/ (losses)					
Actuarial gains / (losses) on defined benefit pension scheme	23	-	11,782	11,782	(8,502)
Exchange difference on retranslation of net assets of subsidiary undertakings		-	-	-	45
Net movement in funds		238	16,332	16,570	2,547
Fund balances brought forward		3,303	63,807	67,110	64,563
Fund balances carried forward	22	3,541	80,139	83,680	67,110

The Statement of Financial Activities includes all gains and losses recognised in the year. All amounts relate to continuing activities. The notes on pages 46 to 76 form part of these financial statements.

Charity Statement of Financial Activities incorporating an income and expenditure account for the year ended 31 December 2021

	Note	2021 Restricted £'000	2021 Unrestricted £'000	2021 Total £'000	2020 Total £'000
Income from:					
Donations and legacies	3	-	5	5	9
Charitable activities:					
Membership		-	1,635	1,635	1,646
Programmes		299	2,941	3,240	3,343
Scientific Publications		-	22,193	22,193	21,469
Investments		-	1,221	1,221	1,065
Other		-	-	-	106
Total income		299	27,995	28,294	27,638
Expenditure on:					
Raising funds		-	(81)	(81)	(64)
Charitable activities:					
Ecosystem		(291)	(4,275)	(4,566)	(4,809)
Productivity		-	(405)	(405)	(12)
Campaign		-	(645)	(645)	(498)
Public Dialogue		-	(381)	(381)	(212)
Transformation		-	(571)	(571)	(154)
Challenge Fund		-	(242)	(242)	-
Membership		-	(1,151)	(1,151)	(893)
Business operations		(78)	(9,759)	(9,837)	(10,399)
Other		-	(8,523)	(8,523)	(1,209)
Total expenditure		(369)	(26,033)	(26,402)	(18,250)
Net gains on investments	17	308	2,634	2,942	1,154
Net income		238	4,596	4,834	10,542
Other recognised gains/ (losses)					
Actuarial gains / (losses) on defined benefit pension scheme	23	-	11,782	11,782	(8,502)
Net movement in funds		238	16,378	16,616	2,040
Fund balances brought forward		3,303	44,891	48,194	46,154
Fund balances carried forward	22	3,541	61,269	64,810	48,194

Balance Sheet at 31 December 2021

	Note	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Fixed assets					
Intangible assets	14	3,576	3,894	-	-
Tangible assets	15	33,948	34,885	33,381	34,185
Investments in subsidiary undertakings	16	-	-	3,001	3,001
Investments	17	25,895	22,953	25,895	22,953
		63,419	61,732	62,277	60,139
Current assets					
Debtors	18	18,622	16,577	1,953	1,414
Cash at bank and in hand		37,642	28,637	7,001	579
		56,264	45,214	8,954	1,993
Creditors: amounts falling due within one year	19	(31,563)	(28,147)	(1,981)	(2,249)
Net current assets / (liabilities)		24,701	17,067	6,973	(256)
Provisions for liabilities	21	(806)	(806)	(806)	(806)
Defined Benefit Pension scheme deficit	23	(3,634)	(10,883)	(3,634)	(10,883)
Net Assets		83,680	67,110	64,810	48,194
Restricted funds					
Restricted funds	22	3,541	3,303	3,541	3,303
Unrestricted funds					
General fund	22	83,773	74,690	64,903	55,774
Pension reserve	23	(3,634)	(10,883)	(3,634)	(10,883)
Total unrestricted funds		80,139	63,807	61,269	44,891
Total charity funds		83,680	67,110	64,810	48,194

These financial statements were approved by Council and authorised for issue on 12 July 2022 and were signed on its behalf by

Sheila Rowan
Professor Sheila Rowan
CBE FRS FRSE Hon. FInstP
 President
 12 July 2022

David Delpy
Professor David Delpy
CBE FInstP FRS FREng FMedSci CPhys
 Honorary Treasurer
 12 July 2022

The notes on pages 46 to 76 form part of these financial statements.

Consolidated Statement of Cash Flows for the year ended 31 December 2021

	2021 £'000	2020 £'000
Cash flows from operating activities		
Net income for the year	4,788	11,004
Adjustments for:		
Depreciation and amortisation of fixed assets and intangible assets	2,862	3,435
Loss on disposal of fixed assets	1	1
Gains on investments	(2,942)	(1,154)
Net interest receivable	-	(8)
Dividend income from fixed and current investments	(231)	(212)
Difference between net pension expense and cash contribution	4,533	(941)
(Increase) / decrease in trade and other debtors	(2,045)	1,084
Increase in trade and other creditors	3,416	2,510
Net cash provided by operating activities	10,382	15,719
Cash flows from investing activities		
Purchases of fixed assets and intangible assets	(1,608)	(6,465)
Interest received	-	8
Dividends received on fixed and current asset investments	231	212
Purchase of investments	(2,926)	(7,221)
Sale of investments	2,926	7,221
Net cash used in investing activities	(1,377)	(6,245)
Net increase in cash and cash equivalents	9,005	9,474
Cash and cash equivalents at beginning of year	28,637	19,118
Foreign exchange gains	-	45
Cash and cash equivalents at end of year	37,642	28,637
Cash and cash equivalents comprise:		
Cash at bank and in hand	37,642	28,637
	37,642	28,637

The notes on pages 46 to 76 form part of these financial statements.

Notes forming part of the financial statements for the year ended 31 December 2021

1. Accounting policies

The Institute of Physics (IOP) is a corporate body governed by a Royal Charter, which is supplemented by bylaws and regulations. It was established in its current form by Royal Charter dated 30 September 1970.

The IOP is a charity registered in both England & Wales (no. 293851) and in Scotland (no. SC040092). The IOP has also applied for registration as a charity in the Republic of Ireland. The members of Council are the trustees of the Charity. The IOP's registered office is 37 Caledonian Road, London N1 9BU.

The Institute of Physics is a Public Benefit Entity under FRS 102. The financial statements have been prepared in accordance with applicable charity law and in accordance with FRS 102 "The Financial Reporting Standard applicable in the United Kingdom and Republic of Ireland" ("FRS 102"), and with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their financial statements in accordance with FRS 102 (effective 1 January 2015) ("Charities SORP FRS 102"), and in accordance with the requirements of the Charities Act 2011 and Regulation 15 of The Charities (Accounts and Reports) Regulations 2008.

The financial statements have been prepared on the historical cost basis except for the modification to a fair value basis for certain investments and financial instruments as specified in the accounting policies below.

The preparation of financial statements in compliance with FRS 102 requires the use of certain critical accounting estimates. It also requires the Group's management to exercise judgement in applying the Group's accounting policies (see note 2).

Going Concern

Trustees continue to monitor the principal markets in which it operates and they have prepared forecasts and projections for the charity. These projections demonstrate the charity's ability to meet its obligations as they fall due. The Trustees therefore consider it appropriate to prepare the financial statements on a going concern basis.

Parent entity disclosure exemptions

In preparing the individual financial statements of the Institute of Physics advantage has been taken of the following disclosure exemption available in FRS 102:

- No cash flow statement has been prepared for the parent charity; and
- No disclosure has been given for the aggregate remuneration of the key management personnel of the parent charity because their remuneration is included in the totals for the group as a whole.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

1. Accounting policies (continued)

Basis of consolidation

The consolidated financial statements incorporate the results of the Institute of Physics and all its subsidiary undertakings as at 31 December 2021 using the acquisition method of accounting. Under this method, the results of subsidiary undertakings acquired or disposed of during the year are included in the consolidated Statement of Financial Activities from the effective date of acquisition or up to the effective date of disposal. All intra-group transactions, balances, income and expenses are eliminated in full on consolidation.

The consolidated financial statements incorporate the results of business combinations using the purchase method. In the Balance Sheet, the acquiree's identifiable assets and liabilities are initially recognised at their fair values at the acquisition date. The results of acquired operations are included in the consolidated Statement of Financial Activities from the date on which control is gained.

Business combinations

Acquisitions of subsidiaries and businesses are accounted for using the purchase method. The cost of the business combination is measured at the aggregate of the fair values at the date of exchange of assets given, liabilities incurred or assumed, and equity instruments issued by the group in exchange for control of the acquiree plus costs directly attributable to the business combination. Any excess of the cost of the business combination over the fair value of the identifiable assets and liabilities is recognised as goodwill.

Analysis of income and expenditure

2021 is the second year of the IOP's strategy "Unlocking the Future". The analysis of income and expenditure by fund reflects the programmes of this strategy, including

membership and business operations (business as usual activities) and those of the IOP's publishing subsidiaries (scientific publications).

Income

Membership income is recognised when received and attributed to the financial years to which it relates. Sundry income is recognised when received. Income from production of in-house and external partner journals with a majority of the income received in advance is recognised in line with the fair value of content delivered. Other income streams include fees received for publishing articles, ebooks and advertising and are recognised upon publication. Sales of access to historic archives are recognised upon invoice, when permanent access is granted and contract management fees are recognised on invoice.

Gift Aid income

The Institute of Physics receives payments from its subsidiaries under the Gift Aid scheme. Gift Aid income is recognised in the charity's Statement of Financial Activities when the subsidiary has made an irrecoverable commitment to pay the taxable profits to the charity. The charity previously had a Gift Aid covenant in place with IOP Publishing Limited (IOP Publishing). At the reporting date there was no legal obligation in place for IOP Publishing to make this payment. The payment is, however, expected to be made within nine months of the end of the reporting date.

Government grants receivable

Grants are accounted for under the accruals model as permitted by FRS 102. Grants of a revenue nature are recognised in the Statement of Financial Activities in the same year as the related expenditure.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

1. Accounting policies (continued)

Resources expended

All expenditure is accounted for on an accruals basis and has been classified under headings that aggregate all costs related to the relevant category. Where costs cannot be directly attributed to particular headings they have been allocated to activities on a basis consistent with use of the resources.

Support costs are those functions that assist the work of the charity but do not directly undertake charitable activities. Support costs include general management, payroll administration, information technology, human resources, financing and governance costs. These costs are allocated across the expenditure on charitable activities. The basis of the cost allocation has been explained in note 8 to the financial statements.

Intangible fixed assets – goodwill

Goodwill represents the excess of the cost of a business combination over the fair value of the group's share of the net identifiable assets of the acquired subsidiary at the date of acquisition. Goodwill on acquisition of subsidiaries is included in Intangible assets. Goodwill is carried at cost less accumulated amortisation and accumulated impairment losses. Goodwill amortisation is calculated by applying the straight-line method to its estimated useful life as follows:

- Goodwill on acquisition of subsidiaries: 5 years

Intangible fixed assets – software

Internally generated software assets are stated at cost and depreciated over four years.

Tangible fixed assets

Tangible fixed assets are stated at cost or valuation, net of depreciation and any provision for impairment.

Assets with a value of less than £500 are not capitalised.

Depreciation

Depreciation is provided to write off the cost or valuation less the estimated residual value of tangible fixed assets by equal instalments over their estimated useful economic lives as follows:

- Freehold property: 45 years
- Office machinery: 4 years
- Fixtures and fittings: 10 years
- Computers: 3 – 4 years

The value of leasehold property is amortised over the remaining periods of the relevant leases.

Valuation of investments

Investments in subsidiaries are measured at cost less accumulated impairment in the individual charity financial statements.

Other investments in listed company shares are included in the balance sheet at the market value of the individual unitised holdings. Gains and losses are recognised in profit or loss, within 'Net income/expenditure' in the Statement of Financial Activities.

Debtors

Trade and other debtors are recognised at transaction price, less any impairment. Prepayments are valued at the amount prepaid net of any trade discounts due.

Liquid resources

For the purposes of the cash flow statement, liquid resources are defined as current asset investments, which is cash held in short term deposit accounts for investment purposes. These are not considered to be cash because they are not accessible penalty free within one working day.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

1. Accounting policies (continued)

Cash

Cash includes cash in hand and deposits repayable on demand with any qualifying institution less overdrafts from any qualifying financial institution repayable on demand. Deposits are repayable on demand if they can be withdrawn at any time without notice and without penalty, or if a maturity or period of notice of not more than 24 hours or one working day has been agreed. Cash includes deposits denominated in foreign currencies.

Creditors

Short term trade creditors are measured at the transaction price. Other financial liabilities are measured initially at amortised cost and subsequently at amortised cost less impairment.

Provisions

Provisions are recognised when the group has a present obligation, legal or constructive, as a result of a past event, it is probable that the group will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The group recognises a provision for annual leave accrued by employees as a result of services rendered in the current period, and which employees are entitled to carry forward and use in the following financial year. The provision is measured at the undiscounted salary cost payable for the period of absence that has been accrued.

The group recognises a provision for the expected value of dilapidations for costs relating to the exit of leasehold premises which are expected to crystallise in 2022. The amount payable will be agreed through future negotiation at such point that an exit occurs.

Financial instruments

Financial instruments are classified and accounted for according to the substance of the contractual arrangement, as financial assets, financial liabilities or equity instruments. An equity instrument is any contract that evidences a residual interest in an asset of the company after deducting all of its liabilities. Financial instruments are measured at amortised cost or fair value depending on the nature of the underlying arrangement.

Derivative financial instruments

Derivative financial instruments are recognised at fair value with any gains or losses being recognised in profit or loss, within 'Net income/expenditure' in the Statement of Financial Activities.

Fund accounting

General funds are unrestricted funds which are available for use at the discretion of the trustees in furtherance of the objectives of the charity and which have not been designated for other purposes.

Restricted funds are funds which are to be used in accordance with specific restrictions imposed by the donors.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

1. Accounting policies (continued)

Pension costs – Institute of Physics Retirement Benefits Plan 1975

The IOP operates the Institute of Physics Retirement Benefits Plan 1975 providing pension benefits based on final pensionable pay. This scheme was closed to new members on 31 December 2001. The scheme closed to future accrual during the year ended 31 December 2015. The assets of the scheme are held separately from those of the group in an independently administered fund. This defined benefit scheme is accounted for in accordance with FRS 102. The service cost of pension provision relating to the year, together with the cost of any benefits relating to past service if the benefits have vested, is charged to the Statement of Financial Activities. A charge equal to the increase in the present value of the scheme liabilities (because the benefits are closer to settlement) and a credit equivalent to the group's long term expected return on assets (based on the market value of the scheme assets at the start of the year), are also included in the Statement of Financial Activities.

The difference between the market value of the assets of the scheme and the present value of the accrued pension liabilities is shown as an asset or liability on the balance sheet. Any differences between the actual and expected return on assets during the year are recognised in the Statement of Financial Activities along with differences arising from experience or assumption changes. The defined benefit pension expense recognised in the Statement of Financial Activities is allocated to expenditure on charitable activities in proportion with the expenditure on these activities, except where it relates to a past service cost identified in year in which case it is allocated to other expenditure. The defined benefit pension expense is recognised in unrestricted funds.

Pension costs – Institute of Physics Group Personal Pension Schemes

The group operates two group personal pension schemes. They are both defined contribution pension schemes with assets held in the names of the individual members.

The first was established from 1 January 2002 and is managed by Aviva. This scheme closed to new members on 31 January 2014. For those members of staff who are members of this scheme, the IOP contributes 2-18% of basic salary.

The second was established from 1 February 2014 and is managed by Aviva. For those members of staff who choose to join the scheme the IOP contributes 2-12% of basic salary.

Contributions to the group's defined contribution pension schemes are charged to the Statement of Financial Activities in the year in which they become payable.

Foreign currencies Functional currency and presentation currency

The individual financial statements of each group entity are presented in the currency of the primary economic environment in which the entity operates (the 'functional currency'). The consolidated financial statements are presented in Sterling, which is the charity's and the group's presentation currency.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

1. Accounting policies (continued)

Transactions and balances

In preparing the financial statements of the individual entities, transactions in currencies other than the functional currency of the individual entity are recognised at the spot rate at the dates of the transactions or at an average rate where this rate approximates the actual rate at the date of the transaction. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated. Foreign exchange differences that arise are recognised in profit or loss, within 'Net income/expenditure' in the Statement of Financial Activities.

Translation of group companies

For the purpose of presenting consolidated financial statements, the assets and liabilities of the group's foreign operations are translated from their functional currency to Sterling using the exchange rate ruling on the balance sheet date. Income and expenses are translated using an average rate for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising on translation of group companies are recognised within 'Other recognised gains/losses' in the Statement of Financial Activities.

Operating leases

Rentals payable under operating leases are charged to the Statement of Financial Activities on a straight-line basis over the terms of the leases.

Rental income receivable under operating leases with a third party is recognised in the Statement of Financial Activities on a straight-line basis over the terms of the leases.

The group has taken advantage of the transitional relief available for lease incentives, such that where a lease commenced before the date of transition to FRS 102, the remaining benefit of the lease incentive may continue to be recognised in accordance with previous UK GAAP.

2. Significant judgements and estimates

Preparation of the financial statements requires the Executive Board and Senior Management Team to make significant judgements and estimates.

Significant estimates

The items in the financial statements where significant estimates have been made include:

Revenue recognition

Income from production of in-house and external partner journals with a majority of the income received in advance is recognised in line with the fair value of content delivered. An estimate is required in the recognition of revenue where contracts with customers span multiple years.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

Defined benefit pension scheme valuation

Valuation of the assets and liabilities of the group defined benefit pension scheme are performed by a professional actuary. This requires estimates to be made around the range of assumptions used and the value used for each assumption.

Partner accruals

Indirect costs of IOP Publishing Limited are allocated to partners in the calculation of partner payments. An estimate is required in this allocation.

Dilapidations

A provision is included for the value of dilapidations for costs relating to the exit of leasehold premises which are expected to crystallise in 2022. An estimate is required to determine this value. The amount payable will be agreed through future negotiation at such point that an exit occurs.

Significant judgements

The items in the financial statements where significant judgements have been made are:

Defined benefit pension scheme

The trustees of the Institute of Physics Retirement Benefit Plan (1975) are currently performing a review of the effective date of implementation of the Normal Retirement Age equalisation of the defined benefit pension scheme. The effective date may be deemed to be either 1 November 1991, 1 November 1994 or 31 October 1997. Judgement is required to determine the likelihood of a liability arising in respect of this matter and the value of any such liability to be recognised in the financial statements of the IOP. A prudent approach has been taken and the provision is based on the effective date being 31 October 1997 and therefore the maximum expected liability is provided for. The following factors are taken into consideration by the Executive Board and Senior Management team when making this judgement: professional advice provided to the Executive Board by the IOP's actuary; and existing case law.

Partner agreements

When agreements are entered into with partners, judgement is required as to whether the company is acting as the agent or the principal in the arrangement and therefore how revenue should be recognised. The following factors are taken into consideration when making this judgement: which party to the agreement establishes the sales prices; which party bears the credit risk on the sale; and which party is responsible for providing the goods or services to the customer. The contractual terms set out in the agreement and the substance of the arrangement are also taken into consideration.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

3. Income: analysis by fund

	Note	2021 Restricted £'000	2021 Unrestricted £'000	2021 Total £'000	2020 Restricted £'000	2020 Unrestricted £'000	2020 Total £'000
Income from:							
Donations and legacies		-	5	5	-	9	9
Charitable activities:							
Membership		-	1,635	1,635	-	1,646	1,646
Programmes		299	2,941	3,240	380	2,963	3,343
Scientific Publications		-	71,730	71,730	-	69,707	69,707
Other trading activities		-	1,954	1,954	-	1,659	1,659
Investments	6	-	231	231	-	220	220
Other		-	-	-	-	106	106
Total income	5	299	78,496	78,795	380	76,310	76,690

4. Expenditure: analysis by fund

	Note	2021 Restricted £'000	2021 Unrestricted £'000	2021 Total £'000	2020 Restricted £'000	2020 Unrestricted £'000	2020 Total £'000
Expenditure on:							
Raising funds		-	81	81	-	64	64
Charitable activities:							
Scientific Publications	7	-	50,854	50,854	-	48,895	48,895
Ecosystem	7	291	4,219	4,510	392	4,362	4,754
Productivity	7	-	405	405	-	12	12
Campaign	7	-	645	645	-	498	498
Public Dialogue	7	-	381	381	-	212	212
Transformation	7	-	571	571	-	154	154
Challenge Fund	7	-	241	241	-	-	-
Membership	7	-	901	901	-	643	643
Business operations	7	78	9,759	9,837	40	10,359	10,399
Other		-	8,523	8,523	-	1,209	1,209
Total expenditure		369	76,580	76,949	432	66,408	66,840

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

5. Analysis of incoming resources

By geographical market	2021 £'000	2020 £'000
Europe, Middle East and Africa	27,433	27,583
The Americas	30,529	29,780
Asia Pacific	20,833	19,327
Total	78,795	76,690

By class of business	2021 £'000	2020 £'000
Publishing operations	73,684	71,366
Charitable activities	3,240	3,343
Membership income	1,635	1,646
Other	236	335
Total	78,795	76,690

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

6. Investment income

	2021 £'000	2020 £'000
Dividends and interest from listed investments	231	212
Interest from cash and short term investments	-	8
Total	231	220

Group investment income of £231k is lower than the Charity's investment income due to the elimination of intercompany rent recharged in respect of Temple Circus.

7. Analysis of expenditure

7a. Analysis of expenditure by type

	2021 Activities undertaken directly £'000	2021 Grant funding activities £'000	2021 Support costs £'000	2021 Total £'000	2020 Total £'000
Raising funds	-	-	81	81	64
Charitable activities:					
Scientific Publications	50,854	-	-	50,854	48,895
Ecosystem	3,242	113	1,155	4,510	4,754
Productivity	176	-	229	405	12
Campaign	280	-	365	645	498
Public Dialogue	165	-	216	381	212
Transformation	248	-	323	571	154
Challenge Fund	104	-	137	241	-
Membership	249	-	652	901	643
Business operations	1,738	-	8,099	9,837	10,399
Other	-	-	8,523	8,523	1,209
Total	57,056	113	19,780	76,949	66,840

Grant funding represents 97 (2020: 107) STFC grants made to schools to help them run physics and astronomy related activities and 12 (2020: nil) grants made to individuals under the Bell Burnell Graduate Scholarship Fund to encourage greater diversity in physics by assisting PhD physics students from under-represented groups.

A provision of £7.4m in respect of the potential outcome of a review of the effective date of Normal Retirement Age equalisation of the defined benefit pension scheme has been recognised in the 2021 financial statements. This is shown in Other expenditure above.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

7. Analysis of expenditure (continued)

7b. Analysis of expenditure on business operations

Included within expenditure on charitable activities are costs for business operations amounting to £9,837k (2020: £10,399k). These are analysed as:

	2021 Restricted £'000	2021 Unrestricted £'000	2021 Total £'000	2020 Total £'000
Awards	78	201	279	301
Support	-	2,779	2,779	2,783
Membership	-	1,180	1,180	1,295
Technology	-	2,969	2,969	3,049
Facilities	-	1,728	1,728	2,070
Outreach	-	902	902	901
Total business operations expense	78	9,759	9,837	10,399

8. Analysis of governance and support costs

Included within expenditure on charitable activities are governance and support costs amounting to £11,176k (2020: £10,749k). These are analysed as:

	2021 Management Costs (Directorate + Staff) £'000	2021 "Central Costs (IT, HR, Facilities)" £'000	2021 Finance Costs £'000	2021 Total £'000	2020 Total £'000
Ecosystem	1,027	128	-	1,155	1,052
Productivity	204	25	-	229	7
Campaign	325	40	-	365	293
Public Dialogue	192	24	-	216	124
Transformation	287	36	-	323	90
Challenge Fund	122	15	-	137	-
Membership	580	72	-	652	526
Business operations	5,094	2,466	539	8,099	8,657
Total	7,831	2,806	539	11,176	10,749

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

8. Analysis of governance and support costs (continued)

Auditors fees:

	2021 £'000	2020 £'000
Fees payable to the charity's auditors for the audit of the charity's annual financial statements	45	38
Fees payable to the charity's auditor for other services:		
The audit of the charity's subsidiaries pursuant to legislation	96	84
Other services	301	301
Other taxation services	10	11
Total	452	434

Non audit fees include work by PwC's Inclusion and Diversity practice on the Giving Voice to Inclusion programme, a central focus of the IOP's efforts to foster a more representative physics community looking beyond diversity to inclusion.

9. Staff

	2021 £'000	2020 £'000
Wages and salaries	26,224	25,375
Social security costs	2,324	2,298
Pension costs	2,580	2,450
Redundancy and severance costs	70	244
Total	31,198	30,367

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

9. Staff (continued)

The number of employees earning more than £60,000 including bonuses (excluding employer pension contributions) per year can be analysed in the following bands:

	2021	2020
£60,000 - £69,999	32	26
£70,000 - £79,999	17	23
£80,000 - £89,999	11	11
£90,000 - £99,999	8	4
£100,000 - £109,999	6	5
£110,000 - £119,999	2	1
£120,000 - £129,999	1	2
£130,000 - £139,999	1	-
£140,000 - £149,999	-	1
£150,000 - £159,999	3	1
£160,000 - £169,999	1	2
£170,000 - £179,999*	2	3
£180,000 - £189,999	-	-
£190,000 - £199,999	1	-
£200,000 - £209,999	-	1
£210,000 - £219,999	1	-
£220,000 - £229,999	1	1
£260,000 - £269,999	1	-
£300,000 - £309,000	1	-
£400,000 - £410,000	-	1

* This banding includes the remuneration of the Group Chief Executive Officer

The above banding covers the employees of the IOP Group and also includes 19 staff (2020: 20) who are employed by entities within the IOP group that fall outside the scope of the gender pay gap reporting. The above banding includes 64 (2020: 50) staff for whom retirement benefits are accruing under defined contribution schemes. Of these 64 staff, there are 9 (2020: 9) staff who are also deferred members of defined benefit schemes that are closed to future accrual. Contributions by the group for the year for the above employees to defined contribution schemes amounted to £656k (2020: £482k). 22 staff included above (2020: 24) are paid in foreign currencies and their earnings are subject to foreign exchange fluctuations when translating from the base currency to sterling.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

9. Staff (continued)

Additional information on the total remuneration package of employees earning over £60,000 per year is shown below.

Institute of Physics – Charity

Salary and Compensation	Bonus and commission	Non pensionable allowances and other benefits	Employer Pension Contribution	2021	2020
£60,000 – £69,999	-	-	£5,000 – £14,999	7	4
£70,000 – £79,999	-	-	£5,000 – £14,999	6	7
£80,000 – £89,999	-	-	£5,000 – £14,999	3	1
£100,000 – £109,999	-	-	£5,000 – £14,999	-	2
£110,000 – £119,999	-	-	£5,000 – £14,999	1	-
£140,000 – £149,999	-	-	£0 – £5,000	-	1
£150,000 – £159,999	-	-	£0 – £5,000	1	-
£170,000 – £179,999*	-	-	£30,000 – £34,999	1	1

* This banding includes the remuneration of the Group Chief Executive Officer.

Institute of Physics – Group

Within the trading subsidiaries of the Institute of Physics group (IOP Enterprises Limited, IOP Publishing Limited, Turpion Limited, Turpion-Moscow Limited, IOP Publishing Inc., IOP Business Publishing Inc., IOP Publishing Consultants (Beijing) Co Limited, IOP Marketing and Promotion Services Private Limited), some staff, dependant on role, have contractual performance based incentives linked to the subsidiaries' revenue or profit growth. Staff may also receive non pensionable allowances and medical benefits in addition to employer pension contributions.

UK employer pension contributions are made at a maximum of 18% of pensionable salary. The average number of employees during the year was:

	2021	2020
Charitable work:		
- Institute of Physics	134	136
Business operations:		
- IOP Publishing Limited	217	224
- IOP Publishing Inc.	28	32
- IOP Business Publishing Inc.	2	2
- Turpion-Moscow Limited	3	3
- IOP Publishing Consultants (Beijing) Co Limited	17	14
- IOP Marketing and Promotion Services Private Limited	5	4
Management and administration:		
- Institute of Physics	34	35
- IOP Publishing Limited	135	135
Total	575	585

The full time equivalent employees as at 31 December 2021 was 540 (2020: 595).

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

10. Key management personnel remuneration

Key management personnel include all members of Council. The President, honorary officers and members of Council give their time to the IOP on a voluntary basis and are paid no remuneration for this work. They are reimbursed the actual costs of travel and subsistence necessarily incurred on the official business of the IOP and/or its subsidiaries. In the year to 31 December 2021 less than £1k of expenses were incurred and reimbursed to 5 trustees (2020: £12k to 14 trustees).

Remunerated key management personnel include the members of the IOP's senior management team and directors of the IOP's subsidiary companies. The Group Chief Executive Officer performs a group role across all entities within the IOP Group. The Group Chief Executive Officer is part of the IOP's senior management team which also includes the Deputy Chief Executive; Chief Financial Officer; The Director of Policy and Public Affairs; The Director of Science, Innovation & Skills; and the Chief Executive, IOP Publishing Limited. All members of the senior management team are remunerated by the Institute of Physics with the exception of the Chief Executive of IOP Publishing Limited.

In addition to the members of the IOP's senior management team, remunerated key management personnel comprise:

IOP Publishing Limited

Sales & Marketing Director
Finance & Operations Director
Technology Director
Publishing Director

The pay and remuneration of the group senior management team is set and monitored on behalf of Council by the Remuneration Committee. The Committee comprises the President, President-elect, Honorary Secretary and Honorary Treasurer, and is supported by

several separately appointed external advisors. The Committee commissions, each year, relevant external benchmarking information from both the publishing and charity sector to support its decision-making, and when necessary takes additional advice from specialist organisations.

The total compensation paid to key management personnel for services provided to the group was £2,192k (2020: £1,732k). This includes all remuneration, salary, benefits, bonuses and commission, employer's pension contributions, employer's national insurance contributions and any compensation payments made.

11. Physics World

During the year the IOP contributed £266k (2020: £266k) to IOP Publishing Limited towards the cost of copies of Physics World supplied to members, and £40k (2020: £40k) towards the cost of copies of Physics Education supplied to the IOP's affiliated schools programme.

12. Taxation

As a registered charity, the IOP is potentially exempt from taxation of its income and gains received within categories covered by Chapter 3 Part 11 of the Corporation Tax Act 2010 or Section 256 of the Taxation of Chargeable Gains Act 1992, to the extent that such income or gains are applied exclusively to charitable purposes.

The subsidiary companies make qualifying donations of taxable profit to the Institute of Physics.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

13. Irrecoverable VAT

There is a group VAT registration for the Institute of Physics and its UK subsidiaries. The VAT group is partly exempt and, because of this, there are restrictions on the amount of VAT recoverable.

14. Intangible assets

Institute of Physics – Group	Software £'000	Goodwill on consolidation £'000	Trademarks £'000	Assets in course of construction £'000	Total £'000
<i>Cost or valuation</i>					
At 1 January 2021	12,414	126	217	612	13,369
Additions	-	-	-	1,232	1,232
Transfers from assets in course of construction	1,219	-	-	(1,219)	-
At 31 December 2021	13,633	126	217	625	14,601
<i>Accumulated amortisation</i>					
At 1 January 2021	(9,234)	(126)	(115)	-	(9,475)
Provision for the year	(1,507)	-	(43)	-	(1,550)
At 31 December 2021	(10,741)	(126)	(158)	-	(11,025)
<i>Net book value</i>					
At 31 December 2021	2,892	-	59	625	3,576
At 31 December 2020	3,180	-	102	612	3,894

Assets in the course of construction

Assets in the course of construction relate to elements of the implementation of new software systems which are ongoing. These assets are not being depreciated. These assets will begin to be depreciated upon being brought into use.

Intangible assets – Charity

The charity does not hold any intangible assets (2020: £nil).

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

15. Tangible assets

Institute of Physics – Group	Unoccupied property £'000	Freehold property £'000	Short leasehold property £'000	Fixtures and fittings £'000	Total £'000
<i>Cost</i>					
At 1 January 2021	2,663	33,968	2,431	4,357	43,419
Additions	120	7	69	180	376
Disposals	-	-	(8)	(175)	(183)
At 31 December 2021	2,783	33,975	2,492	4,362	43,612
<i>Accumulated depreciation</i>					
At 1 January 2021	-	(2,629)	(2,362)	(3,543)	(8,534)
Charge for the year	-	(877)	(53)	(382)	(1,312)
Disposals	-	-	8	174	182
At 31 December 2021	-	(3,506)	(2,407)	(3,751)	(9,664)
<i>Net book value</i>					
At 31 December 2021	2,783	30,469	85	611	33,948
At 31 December 2020	2,663	31,339	69	814	34,885

Institute of Physics – Charity	Unoccupied property £'000	Freehold property £'000	Short leasehold property £'000	Fixtures and equipment £'000	Total £'000
<i>Cost</i>					
At 1 January 2021	2,663	33,968	2,362	263	39,256
Additions	120	7	-	41	168
At 31 December 2021	2,783	33,975	2,362	304	39,424
<i>Accumulated depreciation</i>					
At 1 January 2021	-	(2,629)	(2,309)	(133)	(5,071)
Charge for the year	-	(877)	(53)	(42)	(972)
At 31 December 2021	-	(3,506)	(2,362)	(175)	(6,043)
<i>Net book value</i>					
At 31 December 2021	2,783	30,469	-	129	33,381
At 31 December 2020	2,663	31,339	53	130	34,185

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

16. Investments in subsidiary undertakings

Institute of Physics – Charity	Subsidiary undertakings £'000
<i>Cost and net book value</i>	
At 1 January 2021 and 31 December 2021	3,001

The IOP's subsidiary undertakings at 31 December 2021 were as follows:

Name	Country of incorporation / registration	Class of shares held	Percentage held	Nature of business	Year end
<i>Subsidiary undertakings</i>					
IOP Publishing Limited	UK	Ordinary	100%	Publishing	31 Dec 2021
IOP Enterprises Limited	UK	Ordinary	100%	Non trading	31 Dec 2021
IOP Educational Publishing Limited	UK	Ordinary	100% *	Dormant	31 Dec 2021
IOP Publishing Inc.	USA	Ordinary	100%	Publishing	31 Dec 2021
IOP Business Publishing Inc.	USA	Ordinary	100% ^	Publishing	31 Dec 2021
IOP Publishing Consultants (Beijing) Co Limited	China	Ordinary	100% *	Publishing consulting	31 Dec 2021
Turpion Limited	UK	Ordinary	100% *	Publishing	31 Dec 2021
Turpion–Moscow Limited	Russia	Ordinary	100% +	Publishing	31 Dec 2021
IOP Publishing Moscow LLC	Russia	Ordinary	100% #	Publishing	31 Dec 2021
IOP Marketing and Promotion Services Private Limited	India	Ordinary	100% –	Publishing	31 Mar 2022

* The investments in IOP Educational Publishing Limited, IOP Publishing Consultants (Beijing) Co Limited and Turpion Limited are held directly by IOP Publishing Limited.

^ The investment in IOP Business Publishing Inc. is held directly by IOP Publishing Inc.

+ The investment in Turpion–Moscow Limited is held directly by Turpion Limited.

– The investment in IOP Marketing and Promotion Services Private Limited is 0.01% owned by IOP and 99.99% by IOP Publishing Limited.

The investment in IOP Publishing Moscow LLC is owned 1% by Turpion Limited and 99% by IOP Publishing Limited.

Address of IOP Publishing Limited is Temple Circus House, Temple Way, Bristol BS1 6HG

Address of IOP Enterprises Limited is 37 Caledonian Road, London, N1 9BU

Address of IOP Educational Publishing Limited is Temple Circus House, Temple Way, Bristol BS1 6HG

Address of IOP Publishing Inc. is 190 N. Independence Mall West Suite 601 Philadelphia, PA 19106, USA

Address of IOP Business Publishing Inc. is 190 N. Independence Mall West Suite 601 Philadelphia, PA 19106, USA

Address of IOP Publishing Consultants (Beijing) Co Limited is Room 608, Building A, Raycom Info Tech Park, No.2 Kexueyuan South Road, Beijing China 100190

Address of Turpion Limited is Temple Circus House, Temple Way, Bristol BS1 6HG

Address of Turpion–Moscow Limited is MIAN, 8 Gubkina Street, Room 915, Moscow 119991, Russia

Address of IOP Publishing Moscow LLC is Room 2, 7th Floor, Building 2, 17 Skakovaya Street, Moscow, 125040, Russia

Address of IOP Marketing and Promotion Services Private Limited is No 59, Empee Tower, Harris Road, Pudupet Chennai 600002, Tamil Nadu, India

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

16. Investments in subsidiary undertakings (continued)

Details of the net assets, turnover, expenditure and profit for the year of IOP Publishing Limited, IOP Enterprises Limited, IOP Publishing Inc., IOP Business Publishing Inc., IOP Publishing Consultants (Beijing) Co Limited, Turpion Limited and IOP Marketing and Promotion Services Private Limited are as follows:

	Company Number	Net assets/ (liabilities) 2021 £'000	Turnover 2021 £'000	Expenditure 2021 £'000	Profit/ (loss) 2021 £'000
IOP Publishing Limited	00467514	20,445	73,901	(52,999)	20,902
IOP Enterprises Limited	03471563	4	-	-	-
IOP Publishing Inc.	26-2659520	1,123	3,821	(3,308)	513
IOP Business Publishing Inc.	26-2301131	(169)	1,083	(325)	758
IOP Publishing Consultants (Beijing) Co Limited	No.05292	300	1,541	(1,478)	63
Turpion Limited	02463452	127	328	(449)	(121)
IOP Publishing Moscow LLC	1217700419815	25	-	(16)	(16)
IOP Marketing and Promotion Services Private Limited	U74999TN2016FTC103739	96	253	(228)	25

17. Investments

Group and charity	2021 £'000	2020 £'000
Market value at beginning of the year	22,953	21,799
Purchases in year	2,926	7,221
Disposal proceeds in year	(2,926)	(7,221)
Realised (losses)/ gains	(111)	27
Unrealised gains	3,053	1,127
Market value at end of the year	25,895	22,953
Historical cost	21,629	21,739

No investment management cost was incurred in 2021 or 2020.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

17. Investments (continued)

The analysis of investments by class is as follows:

Group and charity	2021 £'000	2020 £'000
Vanguard FTSE Global All Cap Index Fund	13,277	9,425
BNY Mellon Real Return Fund Newton Institutional	7,513	6,097
CCLA COIF Charities Property Fund	5,105	4,468
Invesco Global Targeted Returns Fund (UK)	-	2,963
Market value of investments	25,895	22,953

18. Debtors

	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Trade debtors	13,638	12,364	117	4
Other debtors	783	982	699	749
Prepayments and accrued income	4,201	3,231	1,137	661
Total	18,622	16,577	1,953	1,414

An impairment loss of £36k (2020: £105k) was recognised in the consolidated Statement of Financial Activities for the year in respect of bad and doubtful trade debtors. An impairment loss of £20k for 2021 was recognised in the Charity Statement of Financial Activities for the year in respect of bad and doubtful trade debtors (2020: write back of £71k).

Included within other debtors is an amount of £nil (2020: £48k) relating to Indian withholding tax that is expected to fall due for payment in greater than one year.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

19. Creditors: amounts falling due within one year

	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Trade creditors	1,354	1,973	424	515
Amounts owed to group undertakings	-	-	71	675
Other creditors	6,272	5,367	5	119
Derivative financial instruments	210	-	-	-
Other taxes and social security	653	547	186	178
Accruals	5,339	4,505	750	321
Deferred income	17,735	15,755	545	441
Total	31,563	28,147	1,981	2,249

Deferred income represents income received in advance:

	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Journals subscriptions	16,616	14,374	-	-
Membership income	306	191	306	191
Other	813	1,190	239	250
Total	17,735	15,755	545	441

Amounts due to group undertakings are interest free and repayable on demand.

20. Financial instruments

The group's and charity's financial instruments may be analysed as follows:

	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Financial assets				
Financial assets measured at fair value through profit or loss	25,895	22,953	25,895	22,953
Financial assets measured at amortised cost	53,500	42,684	8,451	1,626
Financial liabilities				
Financial liabilities measured at fair value through profit or loss	(210)	-	-	-
Financial liabilities measured at amortised cost	(12,965)	(12,214)	(1,250)	(1,630)

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

20. Financial instruments (continued)

Financial assets measured at fair value through profit or loss comprise fixed asset investments in a trading portfolio of listed company shares.

Financial assets measured at amortised cost comprise trade debtors, other debtors, amounts owed by group undertakings, current asset investments and cash at bank.

Financial liabilities measured at fair value through profit or loss comprise the loss in fair value of foreign currency exchange contracts.

Financial liabilities measured at amortised cost comprise trade creditors, other creditors, accruals and amounts owed to group undertakings.

21. Provisions for liabilities

	Group 2021 £'000	Group 2020 £'000	Charity 2021 £'000	Charity 2020 £'000
Dilapidations provision	806	806	806	806

Included within provisions is a provision of £806k (2020: £806k) for costs relating to the exit of leasehold premises which are expected to crystallise in 2022. The amount payable will be agreed through future negotiation at such point that an exit occurs.

22. Movement on reserves

Institute of Physics – Group	General fund £'000	Restricted funds £'000	Pension deficit £'000	Total £'000
At 1 January 2020	64,530	3,355	(3,322)	64,563
Net income	10,115	(52)	941	11,004
Exchange adjustments	45	-	-	45
Actuarial losses	-	-	(8,502)	(8,502)
At 1 January 2021	74,690	3,303	(10,883)	67,110
Net income / (expenditure)	9,083	238	(4,533)	4,788
Actuarial gains	-	-	11,782	11,782
Balances carried forward as at 31 December 2021	83,773	3,541	(3,634)	83,680

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

22. Movement on reserves (continued)

Institute of Physics – Charity	General fund £'000	Restricted funds £'000	Pension deficit £'000	Total £'000
At 1 January 2020	46,121	3,355	(3,322)	46,154
Net income	9,653	(52)	941	10,542
Actuarial losses	-	-	(8,502)	(8,502)
At 1 January 2021	55,774	3,303	(10,883)	48,194
Net income / (expenditure)	9,129	238	(4,533)	4,834
Actuarial gains	-	-	11,782	11,782
Balances carried forward as at 31 December 2021	64,903	3,541	(3,634)	64,810

Group and charity Restricted funds	Prize funds £'000	Other funds £'000	Total funds £'000
Balance at 1 January 2021	50	3,253	3,303
Incoming resources	7	256	263
Resources expended	(7)	(326)	(333)
Unrealised gains on investments	-	308	308
Balance at 31 December 2021	50	3,491	3,541

Restricted funds are held by the IOP and were given to the IOP to spend towards specific projects and purposes. Prize funds are held by the IOP to give out as awards to individuals for their exceptional contribution towards physics. Other funds are to be spent on specific projects.

Analysis of Net Assets by Fund

Institute of Physics Group	General fund £'000	Restricted funds £'000	Pension deficit £'000	Total £'000
Intangible Fixed Assets	3,576	-	-	3,576
Tangible Fixed Assets	33,948	-	-	33,948
Investments	22,871	3,024	-	25,895
Current Assets	55,747	517	-	56,264
Current Liabilities	(31,563)	-	-	(31,563)
Non-current Liabilities	(806)	-	(3,634)	(4,440)
Balances carried forward	83,773	3,541	(3,634)	83,680

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

23. Pensions

The Group operates three pension schemes.

Defined benefit pension scheme

The Institute of Physics Retirement Benefits Plan 1975 was closed to new members on 31 December 2001. The scheme was closed to future accrual during the year ended 31 December 2015. In March 2021, the IOP confirmed its continued support for the scheme. Following discussions with the trustees of the scheme, a recovery plan to fund the deficit was agreed, involving the continuation of contributions from the IOP of £1m per annum through to 30 June 2025. The IOP has agreed to pay additional contingent contributions to the scheme subject to 1) having sufficient funding to meet the commitments of the IOP's 5-year plan and 2) meeting the needs of the IOP's reserves policy.

A Group personal pension scheme was established to replace the defined benefit scheme with effect from 1 January 2002. This scheme closed to new members on 31 January 2014 and a new Group personal pension scheme was established from 1 February 2014. The IOP has also designated a stakeholder pension scheme in compliance with the Pensions Act 1995.

The most recent FRS 102 valuation of the Institute of Physics Retirement Benefits Plan 1975 dated 31 December 2021 showed that the value of the scheme's assets as at that date was £114,427k (2020: £108,739k) and that the actuarial value of those assets represented 103% (2020: 91%) of the benefits that had accrued to members, after allowing for expected future increases in earnings. The principal actuarial assumptions used by the actuary at the Balance Sheet date were:

	2021 %	2020 %
Discount rate	1.95	1.35
Aggregate long-term expected rate of return on assets (net of expenses):		
Inflation (RPI)	3.45	2.95
Inflation (CPI)	2.80	2.30
Future increases in deferred pensions:		
Rate of increase in salaries	2.85	2.95
Rate of increase to pensions in payment:		
Pre 2001 pension	5.00	5.00
2001-2006 pension	3.50	2.95
Post 2006 pension	2.20	2.10
Mortality assumptions:		
	Years	Years
Life expectancy of men aged 65 now	22.1	22.3
Life expectancy of men aged 65 in 20 years	23.3	23.6
Life expectancy of women aged 65 now	24.5	24.6
Life expectancy of women aged 65 in 20 years	25.9	26.0

Cash commutation:

- 2021: Members take 75% of their max allowable pension commencement lump sum on current terms
- 2020: Members take 75% of their max allowable pension commencement lump sum on current terms

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

23. Pensions (continued)

Reconciliation of fair value of plan liabilities:

	2021 £'000	2020 £'000
At the beginning of the year	119,622	100,687
Past service cost	7,400	-
Interest cost	1,601	2,086
Remeasurement (gains) / losses:		
Actuarial (gains) / losses	(8,495)	19,568
Benefits paid	(2,067)	(2,719)
At the end of the year	118,061	119,622

Changes in the fair value of plan assets:

	2021 £'000	2020 £'000
At the beginning of the year	108,739	97,365
Interest income	1,468	2,027
Remeasurement (gains) / losses:		
Return on scheme assets excluding interest	3,287	11,066
Contributions by employer	3,000	1,000
Benefits paid including expenses	(2,067)	(2,719)
At the end of the year	114,427	108,739
Actual return on plan assets	4,755	13,093

	2021 £'000	2020 £'000
Fair value of plan assets	114,427	108,739
Actuarial value of plan liabilities	(118,061)	(119,622)
Net pension scheme liability	(3,634)	(10,883)

Group and charity	2021 £'000	2020 £'000
Pension liability recognised on the balance sheet	(3,634)	(10,883)

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

23. Pensions (continued)

Amounts recognised in profit or loss are as follows:

Group and charity	2021 £'000	2020 £'000
Past service cost	7,400	-
Net interest cost	133	59
Total	7,533	59

A provision of £7.4m in respect of the potential outcome of a review of the effective date of Normal Retirement Age equalisation of the defined benefit pension scheme has been recognised in the 2021 financial statements. This is shown in past service cost.

Analysis of actuarial gain / (loss) recognised within the Statement of Financial Activities gains and losses category

Group and charity	2021 £'000	2020 £'000
Actual return less interest income included in net interest income	3,287	11,066
Changes in assumptions underlying the present value of the scheme liabilities	8,495	(19,568)
Actuarial gain / (loss) on defined benefit pension scheme	11,782	(8,502)

Composition of plan assets

Group and charity	2021 £'000	2020 £'000
Equities	23,917	19,913
Diversified growth funds	36,390	34,052
Annuities	7,876	9,110
Liability Driven Investment funds	32,617	35,839
Partners Fund	11,771	9,930
Cash	1,856	(105)
Total plan assets	114,427	108,739

Defined contribution pension schemes

The amount recognised in the Statement of Financial Activities as an expense in relation to the group's defined contribution pension schemes is £2,393k (2020: £2,258k). Contributions amounting to £202k (2020: £196k) were payable to the scheme as at the year end and are included in creditors within the financial statements.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

24. Analysis of changes in net funds

	2021 £'000	2020 £'000
Decrease in cash and cash equivalents	9,005	9,474
Exchange translation	-	45
Movement in net funds in the year	9,005	9,519
Net funds brought forward	28,637	19,118
Net funds carried forward	37,642	28,637

25. Commitments under operating leases

Group

The group has minimum lease payments under non-cancellable operating leases as set out below:

	Land and buildings 2021 £'000	Land and buildings 2020 £'000
Not later than 1 year	392	727
Later than 1 year and not later than 5 years	476	347
Total	868	1,074

Charity

The charity has minimum lease payments under non-cancellable operating leases as set out below:

	Land and buildings 2021 £'000	Land and buildings 2020 £'000
Not later than 1 year	-	564
Total	-	564

The Temple Circus lease expired in 2021.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

25. Commitments under operating leases (continued)

During 2022, the IOP will be exiting the lease for its existing property in Bristol, which is the trading address of its subsidiary IOP Publishing Limited. In February 2022, the IOP signed a lease for a new property in Bristol.

Under the terms of this lease, the charity and the group has minimum lease payments as follows:

	Land and buildings £'000
Not later than 1 year	-
Later than 1 year and not later than 5 years	1,920
Later than 5 years	3,003
Total	4,923

26. Amounts receivable under operating leases

The charity has minimum lease payments receivable under non-cancellable operating leases as set out below:

	Land and buildings 2021 £'000	Land and buildings 2020 £'000
Not later than 1 year	-	704
Total	-	704

During 2022, the IOP will be exiting the lease for its existing property in Bristol, which is the trading address of its subsidiary IOP Publishing Limited, therefore there are no amounts receivable under non-cancellable operating leases at the end of the year. In February 2022, the IOP signed a lease for a new property in Bristol.

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

27. Related parties

The transactions noted below are all reported due to the individuals being trustees, directors or key management personnel.

Sales by IOP Publishing Limited

Individual	Related organisation	Role within related organisation	Description of transaction	Sales by IOPP (£)	Amount outstanding at year end (£)
Martin Freer	University of Birmingham	Director of the Birmingham Energy Institute and Director of the Energy Research Accelerator at the University of Birmingham	Article publication charges & subscriptions	66,057	6,810
Tariq Ali		Deputy Pro-Vice Chancellor	Advertising	3,495	
Martin Hendry	University of Glasgow	Professor of Gravitational Astrophysics & Cosmology	Article publication charges & subscriptions	59,440	-
Sheila Rowan		Director of Institute for Gravitational Research			
Phillip Burrows	Deutsches Elektronen Synchrotron (DESY)	Chair of the Physics Review Committee	Article publication charges	9,429	-
Sheila Rowan	Science and Technology Facilities Council (STFC)	Director of the Institute for Gravitational Research, School of Physics and Astronomy	Advertising	2,745	-
Mark Telling *		Associate Director	Article publication charges & subscriptions	1,465	-
Alix Pryde	Queen Mary University of London	Member of Council	Article publication charges	4,130	-
Claudia Eberlein	Loughborough University	Dean of Science, Professor of Theoretical Physics & Member of Council	Article publication charges	1,550	-
Tariq Ali		Member of the board - Industrial Policy Research Centre UK at University of Loughborough/ MTC			
Brian Fulton *	University of York	Dean of faculty of Sciences & member of University Executive Board	Article publication charges & subscriptions	80,067	-
			Advertising	1,000	-
Wendy Flavell *	University of Manchester	Vice Dean for Research in Faculty of Science and Engineering and Deputy Head of School in Department of Physics and Astronomy	Article publication charges & subscriptions	79,730	-
			Advertising	3,079	-

* Retired 30 September 2021

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

27. Related parties (continued)

Purchases by IOP Publishing Limited

Individual	Related organisations	Role within related organisations	Description of transaction	Purchases by IOPP (£)
Miriam Maus	The Publishers Association	Director	Membership subscriptions	46,702

Purchases by the IOP

Individual	Related organisations	Role within related organisations	Description of transaction	Purchases by the IOP (£)
Paul Hardaker	Sense about science	Trustee	IOP annual partnership grant – not involved in any decision making related to the Sense about Science Partnership Grant	25,000
Martin Freer	University of Birmingham	Director of the Birmingham Energy Institute and Director of the Energy Research Accelerator at the University of Birmingham	Grants and bursaries	1,555
Tariq Ali		Deputy Pro-Vice Chancellor		
Martin Hendry	University of Glasgow	Professor of Gravitational Astrophysics & Cosmology	Grants & bursaries	150
Sheila Rowan		Director of Institute for Gravitational Research		
Alix Pryde	Queen Mary University of London	Member of Council	Grants & bursaries	150
Brian Fulton *	University of York	Dean of faculty of Sciences & member of University Executive Board	Grants & bursaries	51,495

* Retired 30 September 2021

Notes forming part of the financial statements for the year ended 31 December 2021 (continued)

27. Related parties (continued)

Amounts invoiced by the IOP

Individual	Related organisations	Role within related organisations	Description of transaction	Invoiced by the IOP (£)
Sheila Rowan	Science and Technology Facilities Council (STFC)	Director of the Institute for Gravitational Research, School of Physics and Astronomy	Sponsorship income	9,587
Mark Telling *		Associate Director	Project income	20,000

* Retired 30 September 2021

The charity did not receive any donations with conditions from the trustees or other related party (2020: nil).

No individual listed above was involved in any way with decisions related to, or taken on, the IOP's expenditure with these related organisations.



The Institute of Physics is a charity registered in England and Wales (no. 293851) and Scotland (no. SC040092). Photo credits: iStock/Getty images.

The IOP is the professional body and learned society for physics in the UK and Ireland, with an active role in promoting cooperation in physics around the world. We strive to make physics accessible to people from all backgrounds.

Our 22,000 members demonstrate their professional expertise in physics in settings ranging from schools, universities and national research facilities, to businesses of all sizes, and in roles as varied as teacher, researcher, apprentice, technician, engineer and product developer.