SCIENCE MUSEUM GROUP

CELEBRATING REVOLUTIONARY SCIENCE

ANNUAL REVIEW 2021–22

HAWKING'S LEGACY

HELLENIC WISDOM

CANCER REVOLUTION

BROADCAST CENTENARY

COVID COLLECTION

CONSERVING OUR OBJECTS

SCIENCE OF SOUND

Cover 3D installation of a tumour created for our exhibition *Cancer Revolution: Science, Innovation and Hope*

Below Decorated mannequin wig stand, from *Cancer Revolution*

HIGHLIGHTS

Right Dame Mary Archer, chair of the Science Museum Group, speaks at the launch of *Cancer Revolution: Science, Innovation and Hope*

INNOVATION AND HOPE

The Group is proud to show how science changes lives for the better – and nowhere more so than in our free exhibition about cancer, says Dame Mary Archer

We pride ourselves on having the largest informal education provision of any European museum group but, as well as inspiring the scientists and engineers of the future, we should never forget that science has a critical role in raising hopes that we can change the world for the better.

The message resounds through so much of the content celebrated in this review: in our recent events about climate change, exhibitions about carbon capture, codebreaking, celebrating Amazonia and more. That message became very personal, however, when I helped to launch *Cancer Revolution: Science, Innovation and Hope* in our new exhibition space in the Science and Industry Museum, Manchester.

Cancer emerges from history, in the words of a 19th-century physician, as 'the emperor of all maladies, the king of terrors'. One in two of us will be diagnosed with the disease in our lifetime, not least because the application of science is extending lifespan. However, thanks to research, more of us than ever before are living longer and better both with the disease and beyond it.

Produced by colleagues across the Science Museum Group, with support from expert partner Cancer Research UK, and funders Pfizer, QIAGEN and RedX Pharma Plc, this free exhibition meant a huge amount to me, having been successfully treated for bladder cancer in Addenbrooke's Hospital, Cambridge, in 2011.

Whoever invented the phrase 'cancer journey' was spot on. Step by step, you travel down a road full of blind bends, from the first apprehension that something is awry with your body to when you achieve – if you're lucky – a new normality infused with gratitude for simply being alive.

In the exhibition, we show the stories of people affected by cancer, together with those who study and treat it. From the beads marking every step on a child's treatment journey to the wig stand decorated by the daughter of a chemotherapy patient, visitors will get to know the individuals behind the statistics.

Among the 125 objects we bust some myths and show that cancer isn't unique to humans. Yet we are also clear about the challenges that remain to be solved: why do treatments sometimes stop working? How can we help more people with cancer live not just longer but better?

This world-first exhibition, where science collides with life, sums up how far we have come in replacing dread with hope. The point is that by helping us understand the world, science gives us the power to change our destiny. When it comes to the greatest threat that we all now face, that of climate change, I am optimistic that science will rise to the challenge.

'We provided a forum for 70 speakers from all over the world for online Climate Talks'

Sir Ian Blatchford, director, Science Museum Group

Left Detail from a prototype of a mechanical tree that captures carbon dioxide from the air

LEADING THE WAY

The Group's ongoing efforts to become carbon neutral and its imaginative programming reflect how the climate issue demands global action, says Sir Ian Blatchford, director and chief executive of the Group

The COP26 summit in Glasgow stands out as the most significant event of 2021, with its fraught deliberations and much debated commitments delivering more than many had expected but still falling short of what is thought necessary to curb the damaging effects of global overheating caused by emissions from fossil fuels.

The fact that so much was left to do by the end of the summit, which had been foreshadowed by a meeting at the Science Museum with the prime ministers of the UK and Italy and Sir David Attenborough in 2020, has both galvanised a range of activity across our five museums and underlined the importance of our international efforts.

Much of our programming has reflected the international nature of the climate issue, which will affect every one of us.

In our public programme, we provided a forum for 70 speakers from all over the world for online Climate Talks, before an international audience of tens of thousands of people (*see page 10*). We published many blogs on climate change, and exhibited the methods, both nature- and technology-based, that are being developed by teams worldwide to capture carbon in *Our Future Planet*. We also staged the beautiful exhibition *Amazônia* (*see pages 7–8*), Sebastião Salgado's urgent cry for the preservation of the Amazon. We added our own science content to the exhibition, explaining how the destruction of forest would harm the 'flying rivers' of water vapour that feed Brazilian agriculture.

At the Science Museum, we also hosted the government's Global Investment Summit, which attracted billions of dollars of international funding for what Prime Minister Boris Johnson described as 'the green industrial revolution'. It was the largest international investor event ever held in the UK.

As we have seen with the response to COVID-19, we are stronger if we build international consensus to act in concert. That is why, in a forthcoming gallery sponsored by the Indian renewable energy company Adani Green, we want to adopt a global view of the extraordinarily rapid energy transition which the world must undergo in the coming years. This demands we cut our dependence on fossil fuels and deliver the transition in a fair way, given the vast numbers of people who live in energy poverty.

However, it is important that, as well as talking the talk, the Group 'walks the walk'. We have used the Transition Pathway Initiative to inform our sponsorship decisions and set a robust target of achieving net zero by 2033, including 'Scope 3' emissions (the goods and services we buy), which are responsible for 90% of our carbon footprint.

There are many more examples across our sites: tree planting in our National Collections Centre, Wroughton, which is home to one of the UK's biggest solar arrays and our most energy efficient building too; the award of £4.3 million to the Science and Industry Museum in Manchester by the Public Sector Decarbonisation Scheme to place zero-carbon technology at the heart of the museum's visitor experience; recycling to cut the carbon footprint of exhibitions; and we have put sustainability at the heart of Vision 2025, the £60 million transformation of the National Railway Museum in York and Locomotion in Shildon (*pages 19–21*).

We all worry that there is little we can individually do about climate change. But I for one believe collective action makes it possible to shift economic sectors into a new state where the 'green' option is cheapest and easiest, so society can pass a tipping point to witness a rapid, irreversible transformation to cut greenhouse emissions and reverse the global loss of biodiversity.

Left Stephen Hawking's office in Cambridge
Right Lucy Hawking at the opening of the display
Below right The recreated office, *Stephen Hawking at Work*, in the Science Museum

LEGACY OF **A GENIUS**

The contents of Stephen Hawking's Cambridge office, which were given to the nation, have gone on display in the Science Museum

The Science Museum Group acquired the remarkable contents of Stephen Hawking's office following an Acceptance in Lieu agreement with the UK government in May 2021. This once-in-a-lifetime acquisition will preserve the contents of the office – including his personal reference library, innovative wheelchairs, communications equipment, medals, memorabilia and even the furniture – on behalf of the nation to inspire future generations.

The temporary display *Stephen Hawking at Work*, which opened on 10 February 2022 at the Science Museum, explores Hawking's remarkable life as a scientist, science communicator, and as a person who lived with motor neurone disease. It features significant objects from Hawking's office to provide insight into a man who challenged perceptions of theoretical physics with a playful, imaginative and social approach to work.

In the display, visitors can see one of only five copies of Hawking's PhD thesis, his spectacles, which were adapted to aid communication, and

'It was such a unique and fascinating environment, and I am delighted his office has been recreated in order to inspire scientists of the future'

Lucy Hawking

even an invitation to the time travellers' party Hawking hosted. Hawking's sense of humour is illustrated by one of his favourite pastimes: making bets with his peers on scientific debates. Perhaps one of the most famous is the Black Hole Information Paradox bet he made with Kip Thorne and John Preskill. The wager Hawking signed with his thumbprint is part of the display.

Stephen Hawking at Work also explores his experience of motor neurone disease. Initially given a two-year prognosis when diagnosed, Hawking lived with the disease for more than five decades. On display is the latest generation of wheelchair used by the scientist: the Permobil F3 model. Jonathan Wood, Hawking's graduate assistant, noted it was far more than just a wheelchair – it was also his voice, how he communicated his ideas to the world, his ventilation support and his mobile office.

As a scientist, Hawking took a humorous approach to collaboration. This is exemplified through one of Hawking's most treasured possessions: a doodle-covered blackboard from the Superspace and Supergravity conference in 1980. Delegates covered the blackboard in equations, cartoons and jokes about each other. Hawking had this souvenir framed and hung in his office and now, 40 years later, the Science Museum's conservators have stabilised the chalk dust so it can continue to be enjoyed by spectators.

Visitors across the country will be able to study these fascinating items when the display embarks on a tour of the Science Museum Group, opening next at the National Science and Media Museum in Bradford in spring 2023. The display is then expected to open at the Science and Industry Museum in Manchester and at the National Railway Museum in York and Locomotion in Shildon, County Durham, during 2023 and 2024.

Global audiences will also be able to explore this significant acquisition as it will be catalogued, photographed and published on the Group's online collection in 2022.

'I am thrilled the Science Museum Group is honouring one of the greatest British scientists ever to have lived. It is fantastic that these objects are going on public display across the country to inspire a new generation of thinkers and scientists'

Nadine Dorries, culture secretary

'The most urgent exhibition of the year'
The Guardian

AMAZONIAN GRACE

An exhibition of images of the Amazonian rainforest by the acclaimed photographer Sebastião Salgado formed part of the Group's climate-focused programme

Photographs by Sebastião Salgado, most of which have never been seen in the UK, were part of an important exhibition, *Amazônia*, which opened at the Science Museum in 2021. The award-winning Brazilian photographer worked in the Amazon for seven years with 12 different indigenous communities to create this collection of more than 200 black-and-white images. Together, they present a very personal view of the people and dramatic landscapes of the region.

From images of lush rainforests and immense waterfalls to portraits of the region's diverse communities, *Amazônia* allows visitors to see this environment through the lens of one of the most eminent photographers working today.

Before entering the exhibition, visitors are introduced to the Amazon's vital role in the global climate – and the risk that it is approaching an irreversible tipping point – through a short film commissioned by the Science Museum. A climate scientist and indigenous leaders discuss the threats to the forest posed by deforestation, fires and climate change.

Inside the show, a series of large-scale photographs hang from the ceiling, illustrating Salgado's vision of the Amazon as a unique region of unparalleled beauty that is in critical need of protection. Visitors will discover 'flying rivers', a natural phenomenon whereby trees transport large quantities of water vapour into the atmosphere, creating a cycle that supplies water to the wider region.

Curated and designed by Lélia Wanick Salgado, *Amazônia* is not just focused on sharing the beauty of the region's flora and fauna, but also gives an insight into the impact of deforestation and environmental damage on the communities that live there.

Among the suspended photographs are three structures evoking the homes of 10 indigenous groups who live in and protect the Brazilian Amazon. In this section Salgado presents intimate portraits of the communities going about their daily lives, interspersed with video interviews with the community leaders working to protect their ancestral lands.

The groups featured include the Yanomami, who have been particularly threatened in recent years by the COVID-19 pandemic, illegal mining of their lands and the destruction of the forest. Visitors can see portraits of members of the community, including their Shaman Ângelo Barcelos, and leader Davi Kopenawa Yanomami, who also speaks about the dangers posed to his community in our introductory film.

In the final section of the exhibition, visitors learn how the Salgados are working to protect the 'other Brazilian rainforest', part of the Mata Atlântica (Atlantic Forest) through the work of Instituto Terra. Instituto Terra was

'As a Brazilian, the Amazon, with its incredible colours, rich textures and awe-inspiring vistas, has always held a special place in my heart. I hope visitors to *Amazônia* will feel inspired by its beauty but also understand the urgent need for action to prevent this unique biodiversity being lost'
Sebastião Salgado

The spectacular photographs on display in the exhibition
Left Sebastião Salgado at the evening preview

founded by the Salgados in 1998 on degraded land previously farmed by the family. Over 20 years, they have slowly regrown part of the Atlantic Forest. Accompanying photographs document this reforesting project.

The Science Museum marked the exhibition opening with a morning preview for the press and a VIP evening event at which Sebastião and Lélia gave speeches. The reception from visitors and the media has been overwhelmingly positive, with five-star reviews in the press, and more than 40,000 tickets booked to see the exhibition in London. On 13 May the exhibition will open at the Science and Industry Museum in Manchester.

Above The spectacular photographs on display in the exhibition
Left Sebastião Salgado at the evening preview

Funders
Amazônia at the Science Museum
Principal sponsor Zurich Insurance Company Ltd **Major sponsor** Natura &Co

‘A bold symbol of how Greater Manchester can lead the drive to net zero. It shows how we will harness our industrial heritage to lead the next, greener revolution for the benefit of all’

Cllr Martyn Cox, combined authority lead for culture, Greater Manchester

Below Materials for the sustainable construction work at the site

ENGINEERING NET ZERO

The Science and Industry Museum will place zero-carbon technology at the heart of the visitor experience

Work is under way to deliver a sector-leading programme of decarbonisation works across the Science and Industry Museum and harness green technology to heat its historic spaces.

This visionary project, which skilfully fuses the existing industrial heritage spaces with the latest sustainable technologies, has been made possible thanks to a £4.3 million award from the government’s Public Sector Decarbonisation Scheme delivered by Salix Finance. It will place zero-carbon technologies at the heart of the visitor experience and create a sustainable museum for the future.

Abstraction and reinjection boreholes and a new pathway of pipes to a water source heat network are using the natural resource of water from the ground aquifer to heat the buildings. The temporary removal of listed cobbles to install the pipework has been carried out with all due care, attention and expertise.

Other environmental measures include a new electric boiler and upgrades to the Grade II-listed Power Hall roof and windows, including fitting a sustainable form of insulation to its vast roof.

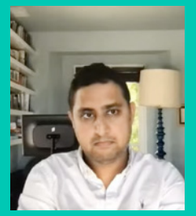
This ambitious project aims to save 515 tonnes of carbon per year, site wide.

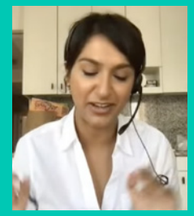
It will transform the museum’s environmental sustainability, improve energy efficiency and lower carbon emissions across the site, supporting the museum’s goal to become carbon neutral by 2033 and Greater Manchester’s goal to become carbon neutral by 2038 – 12 years ahead of the national target.

In decarbonising our historic buildings, we are learning a great deal and are sharing this knowledge with others in the cultural sector, along with organisations that are retrofitting historic buildings.

Our live engineering projects are also inspiring our public programming with fun activities and tours featuring the variety of STEM skills that can be seen live in action on site.

It is fitting that the city that led the way in developing coal-fired mass production, and the museum that today tells that story, should now be helping to spearhead society’s move towards a more sustainable future.





Top row, from left Rajiv Joshi, Kate Treggiden, Angela Saini, Veronica Bates Kassatly, Kristin Ohlson

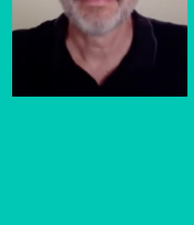
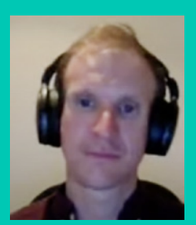
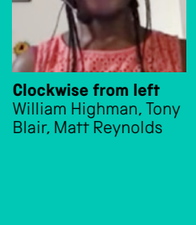
CLIMATE CONVERSATIONS

We launched our Climate Talks series in the run-up to the most significant climate talk of all – the COP26 international climate meeting in Glasgow – and aimed to engage our growing international digital audience of more than 11 million people.

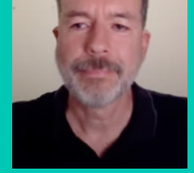
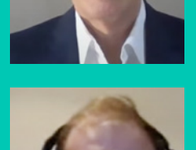
In all, 70 speakers from around the world helped us to debate some of the most pressing issues around climate change, and inspire audiences with insights into how they could help achieve a net-zero future.

The series of events comprised 15 panel discussions and, although the original plans included in-person events, the impact of COVID-19 meant that each one took place online, some as part of the 2021 Manchester Science Festival, produced by the Science and Industry Museum.

As a tribute to the convening power of the Group, we attracted an extraordinary range of high-profile speakers, including Brian Eno, Dia Mirza, Jane Goodall, John Kerry, Maggie Aderin-Pocock, Tim Peake, James Lovelock, Helen Sharman, Heston Blumenthal and Tony Blair. In all, the participants extended well beyond the UK, and included contributors from Canada, Denmark, India, Kenya, Kiribati, Malawi, Nicaragua, Uganda and the USA. At one event, the time difference between panellists was 23 hours.

Below John Kerry, Dr Modi Mwatsama


Clockwise from left William Highman, Tony Blair, Matt Reynolds

Above Dr Anjana Ahuja, Heston Blumenthal, Petronella Halwiindi, Professor Peter Wadhams

The series, which gave the group invaluable experience of hosting virtual events, was also chaired by a number of experienced broadcasters and journalists including Samira Ahmed, Qasa Alom, Jim Al-Khalili, Anushka Asthana, Liz Bonnin, Helen Czerski, Kevin Fong, Hannah Fry, Chris Jackson, Angela Saini, Ritula Shah, Jon Snow and Ayshah Tull.

There were almost 7,000 live views on the night of the events and, at the time of writing, YouTube recordings of the talks had been viewed almost 30,000 times.

A significant fraction of the cost of the talks, which were not sponsored, was covered by the generosity of donations made by viewers. The reason became clear when we surveyed almost 1,000 of them – one fifth said they would ‘probably’ recommend the talks, with another two thirds of respondents (67%) saying they would ‘definitely’ recommend them.

HELLENIC WISDOM

Coinciding with the bicentenary of Greek independence last November, the Science Museum opened a major new exhibition on the science and technology of ancient Greece

An exhibition of rare and historic objects at the Science Museum offers a fascinating insight into ancient Greek philosophers' relationship with the natural world.

Ancient Greeks: Science and Wisdom guides visitors through five key sections, beginning with *Perilous Seas*. Visitors are greeted by a statue of Hermes, recovered from the Antikythera shipwreck, and learn how innovative designs made Greek ships faster and more efficient. *Animal Worlds* demonstrates how great thinkers like Aristotle observed and classified marine animals.

The *Mathematical Body*, meanwhile, explores the concept of the 'ideal' body based on mathematical proportions, which was developed by Hippocrates, while *Harmonious Music* breaks down the complex conceptualisation of music in mathematical terms determined through Pythagoras' thinking.

Finally, *Starry* Cosmos invites visitors to marvel at the advanced technology used by the ancient Greeks to map and model constellations, including a rare silver celestial globe and a Byzantine sundial-calendar – the second oldest known geared mechanism in the world.

The show is accompanied by a series of special events that will run throughout 2022, including expert panel discussions, a film screening and an evening of live music.

The exhibition has been warmly received. *The Times* gave it a four-star review, calling it a 'fascinating investigation into early Greek science', while *The Daily Telegraph* gave it three stars, describing it as 'tantalising'.

At a special preview evening, the Science Museum's entrance was adorned in the colours of the Hellenic national flag.

'Fascinating investigation into early Greek science'
The Times

'*Ancient Greeks: Science and Wisdom* offers a unique window on the wisdom that shaped the science of Ancient Greece, and a fresh insight into some of the innovation that is today driving greater understanding of that past'
Prime Minister Kyriakos Mitsotakis of Greece

Left The exhibition includes an ancient statue of Hermes, recovered from the Antikythera shipwreck

Guests included the Greek prime minister, Kyriakos Mitsotakis, who thanked the museum and the exhibition's partners for bringing these incredible objects and stories in *Ancient Greeks* to life.

The exhibition has enabled audiences to discover and celebrate Greek ingenuity, and it has increased our international community of funders. We are grateful to a number of prominent Greek foundations for their generous support.

Right Dame Mary Archer, Anastasios P. Leventis, Sir Ian Blatchford, Jane Desborough, and prime minister of Greece Kyriakos Mitsotakis

Above Byzantine sundial calendar, 400–600 CE

Funders
Ancient Greeks: Science and Wisdom
Major funder The A.G. Leventis Foundation
Associate funders Avra Foundation, Andonis and Filippos Lemos, the Stavros Niarchos Foundation
Supporters John S Cohen Foundation, J.F. Costopoulos Foundation

A HIT ON OUR HANDS

An exhibition at the Science and Industry Museum explored the early years of the renowned label Factory Records

Visitors flocked to the Science and Industry Museum to celebrate Manchester's place at the heart of Britain's music and creative industries when an exhibition revealing the lesser-known stories of one of Manchester's most influential record labels opened to rave reviews in June 2021.

Use Hearing Protection: The Early Years of Factory Records told the story of this legendary label's formative years from 1978 to 1982, and how its innovative work in music, technology and design gave Manchester an authentic voice and distinctive identity. Founded by Tony Wilson and Alan Erasmus, the label played an influential part in the city's transformation from an industrial powerhouse to a beacon of art and culture.

Highlights included the first 50 artefacts from the official Factory catalogue, including creations from Joy Division, New Order and The Durutti Column, as well as graphic designs by Peter Saville, previously unseen items from the Factory archives, and objects loaned from the estates of both Tony Wilson and Rob Gretton, the former manager of Joy Division and New Order.

Also on public display for the first time in 30 years was Ian Curtis's Vox Phantom guitar, played live and featured in the official *Love Will Tear Us Apart* video.

Interactive experiences included a mixing desk, synthesiser and 'Gig Room' with creative direction for the exhibition by Ben Kelly, who collaborated on record sleeve designs with Peter Saville for early Factory releases before designing the Haçienda nightclub.

'When I saw the exhibition of these first 50 releases of Factory Records, I realised how much of my personal history was entwined with them. It was very emotional for me and I'm looking forward to the next instalment'

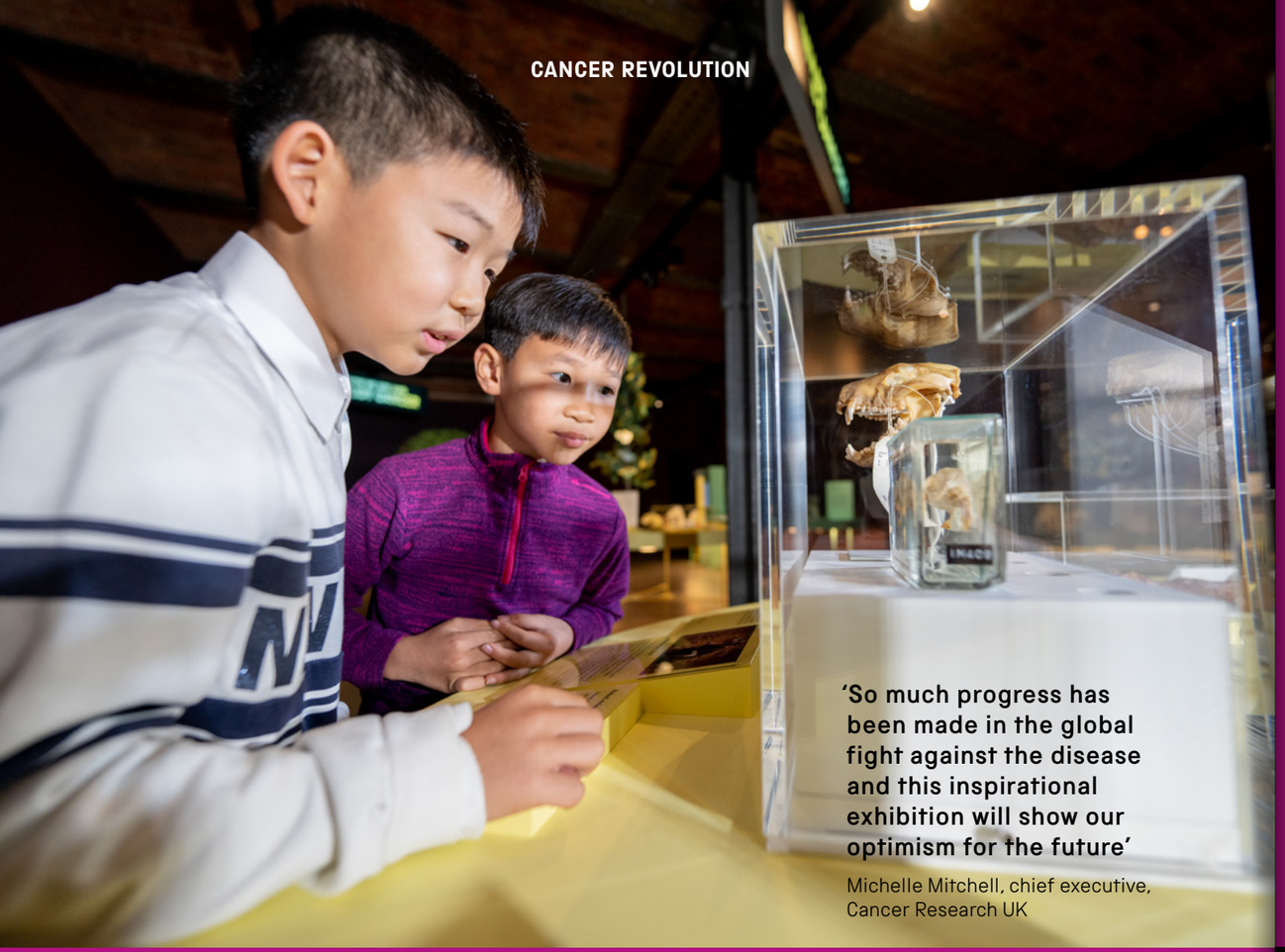
Peter Hook, musician

A popular section, exploring how the city lived and how music brought people together, with crowdsourced photographs from the People's Archive, saw many people reuniting at the museum in front of their photos taken decades ago.

A special late event *The Future of Sound* explored Factory Records' legacy for the creative industries now and featured Peter Hook, the co-founder of Joy Division and New Order, a live music programme, and a new short film produced by the museum.

Main picture, left The mixing desk proved to be one of the more popular objects in the show
Above Visitors with exhibition photographs
Left Ian Curtis's Vox Phantom guitar

Funders
Use Hearing Protection: The Early Years of Factory Records
Supported by players of the People's Postcode Lottery



‘So much progress has been made in the global fight against the disease and this inspirational exhibition will show our optimism for the future’

Michelle Mitchell, chief executive, Cancer Research UK

MEDICAL MARVELS

A free exhibition explores the science behind our understanding of cancer and how this is transforming treatment of the disease

Unveiled at the Science and Industry Museum in October 2021 and moving to the Science Museum in May 2022, *Cancer Revolution: Science, Innovation and Hope* reveals the past, present and future of cancer care and treatment, giving hope that we can live longer and better with cancer.

The exhibition presents stories of people affected by cancer, together with those who study and treat it, revealing how researchers, clinicians, policymakers and patients are driving progress in a powerful expression of shared hope.

Developed with more than 500 partners, including the CRUK Patient Insight panel, the exhibition spotlights what life is like during treatment and remission. A collaborative community project collected people’s stories in their own words, which are displayed alongside personal objects. A visitor commented: ‘Hearing the other people’s stories was amazing, even if it did make me a bit emotional.’

Left Children examine a display case in the exhibition

Below Visitors admire the unusual 3D art installation representing a tumour

The exhibition shows how cancer has been treated over the centuries, from high-risk surgeries to the discovery of the first chemotherapy drugs, and also the important challenges that remain to be solved. The exhibition busts myths and explains fundamental aspects of the disease. Another visitor said they thought the exhibition was playing an important role: ‘I wish everyone could see this. It would help them understand… that a cancer diagnosis isn’t always a death sentence… to get concerns checked out earlier.’

The latest innovations in cancer research are presented, with a focus on the latest revolution in understanding cancer as it evolves. Early detection technologies and immunotherapy case studies, and many more stories, show how a better understanding of the evolution of cancer is enabling better prevention, diagnosis and treatment.

With a mission to give a voice to those living with cancer and inspire the next generation, a range of public events including creative writing sessions and BSL tours, community outreach and online engagement initiatives accompany the exhibition. A social media

‘Wonderful to see the impact this exhibit had on attendees and to think about the number of people it will inspire and fill with hope during the run in Manchester and London’

Erling Donnelly, oncology lead, UK Pfizer Oncology

exhibition, *Cancer Revolution Stories*, is inviting people to share stories and objects that reflect their personal experiences. Meanwhile, in the gallery, a team of volunteers engages visitors with inspiring object-handling discussions and suggests services for care and support. Artistic installations, digital interactives and previously unseen objects, like the first malignant bone tumour to be identified in a dinosaur fossil, ensure that the exhibition appeals to all ages. A participatory space welcomes conversations about cancer. It asks visitors to express their own experiences and perspectives, and to vote for which research area needs the most attention. This data will be used by the National Cancer Research Institute to shape future cancer research.

The exhibition has gained critical acclaim and high-profile partnerships with BBC Radio 5 Live, *The Guardian* and Deborah James, exhibition adviser, cancer blogger and broadcaster. James was appointed Dame Commander of the Order of the British Empire in recognition of her campaigning work. She said: ‘One day I hope my own children will live in a world where cancer is a chronic disease. Through this exhibition we can open up the conversation of cancer even more – throw down the veil, and educate a new generation to know that prevention is key, science is wonderful, and always to have hope.’

Funders *Cancer Revolution: Science, Innovation and Hope*
Science and Industry Museum:
Expert partner Cancer Research UK **Principal sponsor** Pfizer **Major sponsor** QIAGEN
Supporter Redx Pharma Plc
Science Museum:
Expert partner Cancer Research UK **Principal sponsor** Pfizer **Supporters** The John S Cohen Foundation, Julian Howard

GREEN POWER HALL

The great industrial heritage gallery at our Manchester museum is being fully restored to environmentally responsible standards

The restoration of the Grade II-listed Power Hall at the Science and Industry Museum is well under way, thanks to £6 million from the Department for Digital, Culture, Media and Sport and funds from the Science Museum Group.

With additional money from the government's Public Sector Decarbonisation Scheme, administered by Salix Finance, the focus on improved environmental performance has enabled the museum to imagine many new possibilities.

With a skilled team, that includes architect Carmody Groarke, services engineer Max Fordham and project manager Gardiner & Theobald, we are creating a more accessible experience that will put the latest green technologies used to power the building and the machines at the heart of the visitor experience.

Built in 1855 as the shipping shed for Liverpool Road Station, the world's first purpose-built passenger railway station, the Power Hall is one of the most beloved industrial heritage galleries in the country. It houses one of Europe's largest collections of working steam engines, almost all built and used in Greater Manchester.

We will better connect our visitors to the core story of the gallery, revealing how skilled engineers, makers and technicians built a dynamic and enduring human-engine relationship in Manchester, which continues to shape our lives today.

It's important that we tell this story while also showing how the birthplace of the Industrial Revolution is the perfect place to reflect on our changing relationship with fossil fuels and the consequences of industrial carbon emissions for our planet.

We will be telling new stories of the men and women who operated and adapted these remarkable engines, working with communities across Manchester to ensure the gallery will captivate visitors, and create new volunteering and other opportunities for people to develop their skills.

In revealing more about the human skill and ingenuity of the past, we can't wait to inspire the engineers and innovators of the future.

'I hold the Power Hall entirely responsible for me taking up a career in engineering; the historic working machinery fascinated me as a child. Today, I am proud to help restore this beautiful, historic landmark with low-carbon technologies'

Iain Shaw, partner, Max Fordham

REVOLUTION MANCHESTER

The multimillion-pound restoration programme at the Science and Industry Museum will conserve the historic site for a greener future and create new spaces for visitors to enjoy

The Science and Industry Museum is bringing to life the story of its historic Manchester site, creating a more economically and environmentally sustainable museum, and inspiring the innovators of the future to power the next green industrial revolution.

In addition to the completion of the award-winning Special Exhibitions Gallery, which opened in May and has welcomed more than 100,000 visitors so far, other major pieces of work – our decarbonisation and Power Hall projects – will finish this year.

Thanks to £1.9 million funding from the Department for Digital, Culture, Media and Sport, we have been able to start tackling the serious water ingress to the Grade I-listed 1830 Station, the oldest surviving passenger railway station in the world. The building now has a new roof, gutters and rainwater pipes which will help protect it, manage the water, and dry the structure out. We are now planning further internal repairs and the creation of new spaces.

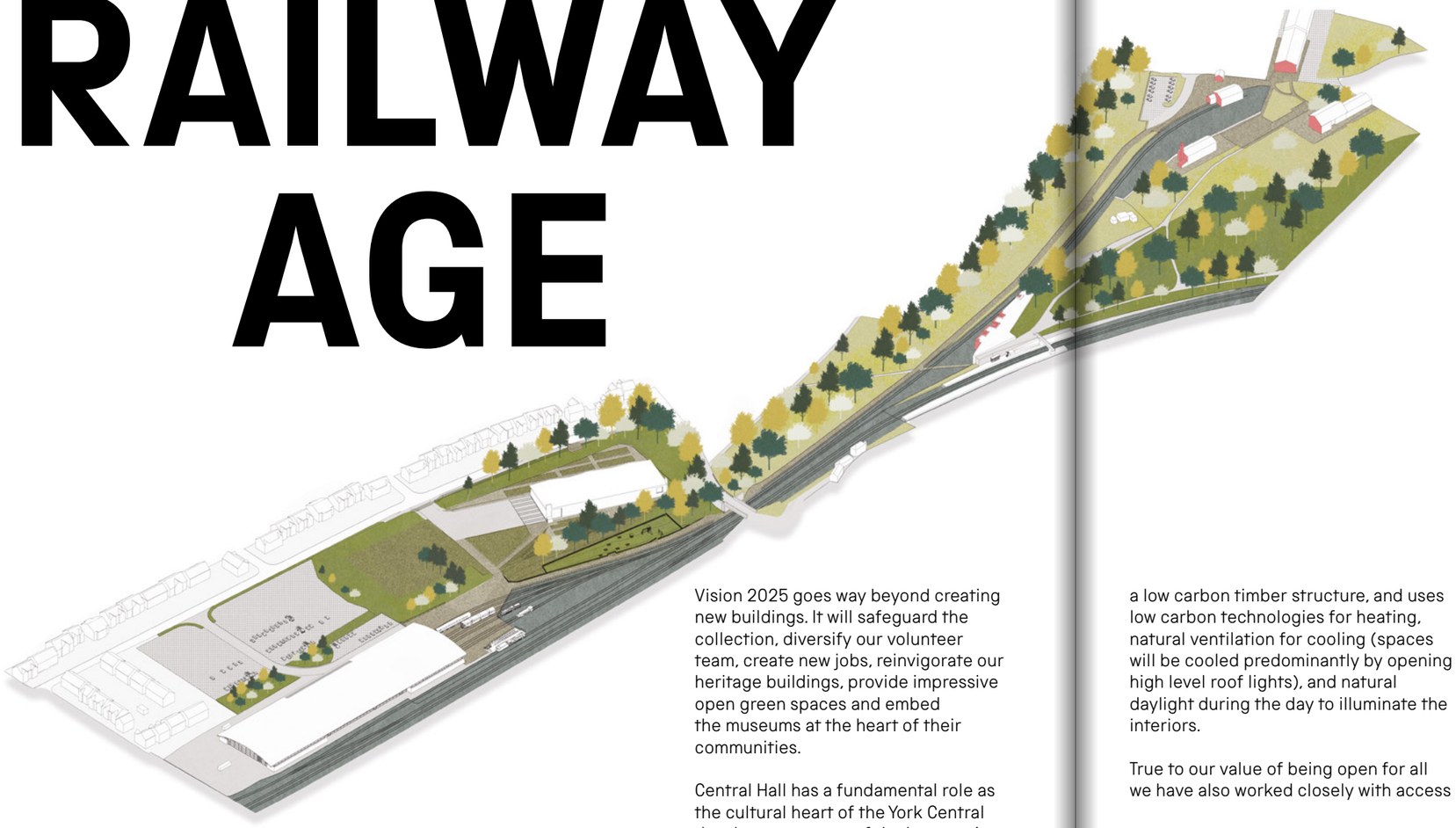
We have also completed the first phase of conservation repairs to the Grade I-listed 1830 Warehouse, the world's first railway warehouse. This has included repairs to the masonry and woodwork, and ensuring it remains wind- and weather-tight through essential roof repairs.

As we transform our museums, we are working hard to make them more accessible in line with our value of being open for all. This year we opened a Changing Places facility in Manchester (and at our museums in Bradford and London, too). Changing Places toilets have features such as hoists and changing benches which are not found in other accessible toilets.

We are saying farewell to the Air and Space Hall this year, as we vacate the lease on the building. The repair and investment work needed for this site, which is owned by Manchester City Council, is substantial and the space unsuitable for the sustainable display of our historic objects. As we prioritise the restoration of the buildings that we own, it is right to pass the building back to the council for the next chapter in its life.

We have been working with specialist teams to return items to their lenders safely, with much of the collection remaining in the North West. We are committed to telling the history of transport innovation in Manchester, using iconic objects from our collection.

RAILWAY AGE



Central Hall at the National Railway Museum and New Hall at Locomotion are beginning to take shape, heralding a spectacular new chapter for York and Shildon

Vision 2025 is the Group's ambitious plan to transform the National Railway Museum into the cultural anchor of York, as well as a world-class visitor attraction. The complete project is made up of a number of connected designs across our museums in York and Shildon, including revitalised green spaces, a reimagining of our Great and Station Halls and a new interactive gallery, *Wonderlab: The Bramall Gallery*.

When the Central Hall opens at the National Railway Museum in 2025, it will unify our site and provide an impressive reception area for our visitors.

Vision 2025 goes way beyond creating new buildings. It will safeguard the collection, diversify our volunteer team, create new jobs, reinvigorate our heritage buildings, provide impressive open green spaces and embed the museums at the heart of their communities.

Central Hall has a fundamental role as the cultural heart of the York Central development – one of the largest city centre brownfield regeneration projects in Europe.

The design of Central Hall reflects the spirit of the great railway architecture of the 19th century. It draws on the history of railway turntables and the geometric beauty of roundhouses, creating an uplifting and jubilant space that celebrates the excitement and scale of the railways.

The design is based on a low-tech philosophy and a lower embodied carbon solution. A beautifully crafted timber frame structure significantly reduces our reliance on concrete and steel. Natural materials, passive design and minimal mechanical intervention are guiding principles on this project: it has a low carbon timber structure, and uses low carbon technologies for heating, natural ventilation for cooling (spaces will be cooled predominantly by opening high level roof lights), and natural daylight during the day to illuminate the interiors.

True to our value of being open for all we have also worked closely with access consultants at Mima and an advisory group of disabled people to ensure our designs translate into welcoming, inclusive and accessible spaces.

We have always been good at bringing the past to life, by preserving, conserving and celebrating the achievements of history. But a new *Railway Futures* gallery in Central Hall will help us to link that past with the railways and the technology of today, so that we can inspire young people to shape the future.

Through a mix of fixed and changing displays, an immersive media-led experience and on-gallery programming, it will showcase the most exciting engineering projects in development and highlight the role that innovation has always played in engineering the railways.

In Shildon, Locomotion's new building is scheduled to open in summer 2023. It will allow us to display many more rail vehicles from the national collection, making Locomotion home to the largest covered museum collection of rail vehicles in Europe.

Locomotion's New Hall draws on the aesthetic of an engine shed, linking it back to Shildon's history as a centre of rail vehicle production. Simple in design, the space will accommodate an additional 45 vehicles displayed on three pairs of tracks, allowing visitors to see them easily and learn about their history and significance.

Large north-east facing windows provide stunning views out and mitigate solar heat gain. Concrete walkways and ballast provide thermal mass and a robust, beautiful floor finish. These simple, hard-wearing materials will provide a long lasting home for the collection.

The new building will be set in a landscape that encourages biodiversity. The boundary fencing will be softened with hedgerow planting to provide a range of habitats and we will extend our existing planting schemes to develop more wildflower meadows across the site, replicating what is found next to many railway tracks across the UK.

Located in the world's first railway town, Locomotion is a key hub in the plans to celebrate the 200th anniversary of the opening of the Stockton and Darlington Railway in 2025. The new building and the wider developments will, for the first time, allow us to tell visitors about Shildon and the North East's exciting and inspirational role in the global railway story.

Left Illustration showing the location of New Hall at Locomotion in Shildon

Below An artist's impression of the Central Hall in York

FEEDBACK LOOP

Wonderlab: The Bramall Gallery in York is engaged in intensive 'prototyping', which allows the museum to improve the interactive exhibits based on visitors' observations

Wonderlab: The Bramall Gallery, launching at the National Railway Museum in spring 2023, will be the first part of Vision 2025 to open to the public. It will be a ground-breaking interactive space that celebrates the inventiveness and wonder of engineering, science and the railways.

Families will be able to explore the exhibits together and challenge themselves to think like engineers. This unmissable experience will spark curiosity in both the young and old, and inspire visitors to see our collections in new and exciting ways.

Wonderlab will be home to 18 interactive exhibits exploring different engineering concepts. Critical 'prototyping' sessions are under way at which visitors are invited to try out early versions of the new exhibits.

At this stage their observations and feedback can inform the development of the gallery, ensuring it is as engaging, inspiring and accessible as possible.

Prototyping began in October with 'Floating in Copper'. This exhibit allowed visitors to move a magnet along a copper tube and see the magnet inside 'float' due to the force of eddy currents. 'Ferrofluid' used a magnetic fluid that moved as visitors changed the strength and position of the magnets. 'Wheels on Track' saw visitors test different wheel profiles to see which shape works best on track.

A 10-year-old visitor who explored the 'Ready Aim Angle' exhibit highlighted how learning takes place in a playful, stimulating way: 'It was so fun that we didn't think about it straight away, but we were learning about angles.'

Law Roebuck, audience researcher for *Wonderlab* at the National Railway Museum, said that prototyping is a critical phase of the gallery's process. 'Prototyping allows us to gain a valuable understanding of how our audiences are interacting with proposed exhibits without having that background knowledge of what the gallery intends to achieve. We've spoken to over 250 visitors from families with children aged 7 to 14 so far. Their response to our plans for the gallery and the individual exhibits has been incredibly positive.'

Prototyping will continue to shape and inform the gallery throughout 2022.

Above The Ferrofluid exhibit in *Wonderlab*

Funders *Wonderlab: The Bramall Gallery* **Title funder** The Liz and Terry Bramall Foundation, the Friends of the National Railway Museum

CLASSIFIED HISTORY

The Science and Industry Museum revealed thrilling inside information about British intelligence and cyber security in *Top Secret*, its first major exhibition since reopening after lockdown

The Science and Industry Museum presented a major exhibition in May 2021 giving unprecedented insight into communications intelligence and cyber security over the past 100 years.

Previously on display at the Science Museum in London, *Top Secret* was held in our Manchester museum's spectacular new Special Exhibitions Gallery, designed by award-winning architectural practice Carmody Groarke.

The show was curated with the help of expert advisers from GCHQ and coincided with the opening of our Manchester site. Nearly 70,000 visitors were enthralled by stories covering the First World War to the latest in cyber security, highlighting the huge diversity of skills needed to pursue a career in science, technology, engineering and mathematics at GCHQ.

New objects were introduced to the Manchester leg of the exhibition to tell the story of the ingenious work of Alan Turing, a man with strong links to the city. They included the £50 note featuring his face, which the Bank of England, with the help of the museum, announced in 2019.

'For the first time the public will be given a glimpse into our secret history of amazing intelligence, world leading innovation and, most of all, brilliant people'

Jeremy Fleming, director of GCHQ

Beyond the exhibition there were exciting *Top Secret*-themed activities. The Lates event was the first after-hours event post-pandemic, and welcomed Dermot Turing, nephew of Alan Turing, and Dr Natasha Ellison. Innovative cyber-themed family programming inspired thousands of future sleuths, including 'Science Stops', focusing on STEM skills, communication and coding. There was also a family trail exploring the exhibition content through STEM skills, and a *Top Secret* dossier of codes and ciphers for families to take home.

Following its Manchester run, *Top Secret* opened at the National Science and Media Museum in Bradford in February, where it will stay until June 2022.

Above Visitors were given a rare insight into intelligence over the past 100 years

Below The show was held in our award-winning Special Exhibitions Gallery

Funders *Top Secret: From Ciphers to Cyber Security* Science and Industry Museum: **Principal funder** Department for Digital, Culture, Media and Sport **Major sponsor** Raytheon UK National Science and Media Museum: **Principal funder** Department for Digital, Culture, Media and Sport

HEAR, HEAR!

The first major exhibition to focus on sound technologies opened at the National Science and Media Museum last summer

The National Science and Media Museum opened its eagerly anticipated Sound Season in July 2021 after it had to be postponed due to COVID-19. The season of exhibitions and events explored how sound fills our world, uncovering how this invisible phenomenon has inspired people to explore its principles, including its origin and behaviour.

The season launched with two free exhibitions, *Sonic: Adventures in Audio* and *Boom: Experiments in Sound*. The exhibitions were accompanied by a series of special events, including two Sound Check events and an associated cinema programme, celebrating iconic sound technologies and pioneers, including the famous Fairlight CMI,

'It was very satisfying to be able to display a wide range of amazing objects from our collections and to work with so many makers and artists on our commissioned interactives'

Annie Jamieson, curator of sound technologies

as well as women in sound, such as legendary British composers Daphne Oram and Delia Derbyshire.

Boom, the first of the two special exhibitions, combined interactive displays to uncover how sound is central to our everyday lives, from helping us to judge distance, size and space, to bringing us entertainment in music and television. Families were invited to journey through the science and sensations of sound, with exciting displays including a sound canal and interactive crescendo space. The exhibition featured one of the Science Museum Group's star sound objects, the Oramics composition machine designed by electronic music pioneer Daphne Oram.

The second exhibition, *Sonic*, showcased the Group's fast-growing collection of sound-related objects, including iconic synthesisers and items used in the famous BBC Radiophonic Workshop. It also saw the debut of a rolling programme of interactive installations by sound artists and experts, including *Drum and Bass: Time and Space* by Edward Wilson-Stephens, a PhD researcher, and *Gramophony*, by composer and performer Jobina Tinnemans.

Sound Season ran until December 2021, attracting 62,000 visitors and contributing to the museum's successful summer holiday and October half-term programmes.

Annie Jamieson, curator of sound technologies, says: 'After several years developing sound as a core subject for collecting and research at the museum, it was wonderful to be able to highlight publicly our commitment to sound through our Sound Season. It was very satisfying to be able to display a wide range of amazing objects from our collections and to work with so many makers and artists on our commissioned interactives. I was especially pleased with the number of visitors – specialist and non-specialist – who came to our Sound Check events, and how many of them told me how happy they are that we are taking sound seriously.'

The Science of Sound also formed a major part of October's Bradford Science Festival, with live highlights including interactive shows such as Music to Your Ears. The festival also welcomed Dan Fox, sound artist, musician and installation creator, who showcased his interactive sound installations in City Park in the heart of Bradford city centre.

Widescreen Weekend also hosted The Sound of Cinema, a special strand of films and events celebrating legendary composer Ennio Morricone, as well as the work of women and non-binary creators on scores across a range of genres.

Sound Season is the start of an initiative exploring this fascinating topic at the museum. Last October, the museum announced it had received initial support from the National Lottery Heritage Fund to begin the development of its ambitious *Sound and Vision* galleries and accompanying activity programme. Set to open in 2024, *Sound and Vision* will bring sound technologies to the forefront of the museum's permanent exhibition space.

Above left Visitors enjoy an outdoor sound installation at *Boom*

Left The *Sonic* exhibition showcased many sound-related objects

Funders
Bradford Science Festival 2021:
Major sponsor PPG **Sponsors** The Broadway, Bradford BID, University of Bradford.
Widescreen Weekend 2021:
Supported by Bradford City Council

MAKING WAVES

A series of exhibitions and events across the Group are celebrating 100 years of the BBC and the technology that will define the future of broadcasting media

To celebrate the 100th anniversary of the BBC along with the 40th anniversary of Channel 4, a bumper year of exhibitions, displays, online content and events are taking place to show how trailblazers have driven the evolution of broadcasting, from using new technology to including more diverse voices.

Opening in July 2022 and running until January 2023, the *Switched On* exhibition at the National Science and Media Museum in Bradford allows visitors to explore the past and future of broadcasting. It introduces visitors to the broadcasting pioneers that delivered the first BBC radio programmes in 1922 and helped to usher in the TV age, and goes on to look at the media's development and the introduction of streaming services. The second half of the show explores the future of broadcast with an interactive experience designed by Prox and Reverie.

The Science and Industry Museum marks 100 years of the BBC in Manchester with an exhibition, which opened in April 2022, showcasing the city as a centre of innovation in broadcasting. It features photographs from the early days of Manchester's first radio station, 2ZY, set up by Metropolitan Vickers, one of the founding companies behind the original BBC consortium. The exhibition also looks at the latest developments in broadcasting at Media City.

Left The changing highlights space at the Science and Industry Museum, Manchester

Funders *Broadcast 100*
Supported by players of the People's Postcode Lottery

Left BBC Midget portable disc recorder, 1944

At the Science Museum, visitors can travel back in time with the 1944 BBC Midget portable disc recorder, used by war correspondents on the Western Front, and enter the world of *Doctor Who* with the help of an original 1980s 'Cyberman' costume.

The Broadcast 100 event series includes adults-only Lates at the Science Museum, Science and Industry Museum and National Science and Media Museum, as well as a series of evening events at the Science Museum, including one live-streamed to Bradford and Manchester.

The overarching themes, complemented by a learning programme aimed at schools and families, explore how innovations in broadcast technology, from the introduction of colour TV by Sir David Attenborough to the rise of user-generated content and social media, have shaped and reflected societal changes, while also playing a key role in STEM literacy and engagement.

A major part of this project is the digitisation of a significant portion of the BBC Heritage Collection, which consists of 1,000 objects the Group acquired from the BBC in 2012. All will have their records upgraded with photography and research with a top 100 receiving enhanced photography and in-depth records of their importance in the story of broadcasting.

The digitisation of this collection was used in several online features including blogs and stories dealing with key themes, from women in broadcasting to the rise of community radio and capturing sounds from nature. The online collection also linked to the BBC's website, which lists the top 100 objects, further boosting the reach of the collection.

Clockwise from top left BBC globe in mirrored enclosure; animation model of Morph; Humpty Dumpty soft toy from *Play School*, 1977; the Cyberman costume from *Doctor Who*, 1988

PRIZE COLLECTION

The Science Museum Group's ambitious One Collection programme continues as the first objects are unpacked at their vast new home

CONTINUED...

‘I cannot wait for 2024 when local Wiltshire residents and people across the UK can explore this incredible collection in person’

Sian Williams, One Collection programme director

Amid another disrupted year, the One Collection Programme continued to transform how we care for, and provide access to, the Science Museum Group Collection.

At Blythe House, the mammoth task of processing 280,000 objects was completed. After studying their condition, checking for hazards and updating records, we now know more about these historic items than ever before. Focus has now shifted to safely packing and transporting these precious items to the National Collections Centre in Wiltshire. 139,214 objects are packed, with more than 116,150 objects already moved to their new home.

This year has seen our sector-leading collection management facility, Building ONE, come into its own. With the fit out completed and almost 30,000m of shelving and racking installed, the facility is now in regular use. State-of-the-art conservation labs enable our teams to better care for the collection, while high-quality digital images of new acquisitions can be expertly captured in the new photography studios.

Twelve colleagues are now based in the new facility, transforming our work with the collection.

A colourful floor grid – designed by Sam Jacob Studio – covers the facility’s vast open storage space. The 3.6m by 3.6m squares on the grid allow for the easy arrangement of 200 large objects, which will include an inert Polaris missile, a Leyland Titan double-decker bus and a record-breaking balloon gondola.

The first objects began arriving at the facility in spring 2021. Two of the first to arrive included a model of the influenza virus and a toy duck used by scientists to identify landing sites on a (duck-shaped) comet. Later in 2021, our trustees joined colleagues and key stakeholders inside Building ONE to celebrate this important milestone in the programme.

Elsewhere at the National Collections Centre, the team continue to study, process and prepare thousands of objects which will also move into Building ONE. We constructed a new radiation store to safely store objects that need specialist conditions. With growing numbers of staff now based at the National Collections Centre, work has also been under way to improve offices and facilities across the site.

This year we passed a significant milestone with over 200,000 object photographs captured and more than 150,000 objects now with an image on our online collection. This huge increase in the visibility of the collection is driving new audiences, with around 150,000 views of our online collection now regularly recorded each month.

And with more images of objects we can tell new stories. This year audiences read 13 long-form articles exploring the environment – our online theme for 2021 – through a wide range of topics, from the effect of climate change on indigenous tribes to the depiction of environmental change through art and the effect of the railways on the landscape.

‘*A Brief History of Stuff* represents the best bits about museums – taking objects and using them as a starting point to tell us about the past, present and future – helping us discover how the things we find ordinary have often had the most extraordinary impacts on us and our world’

Museums Journal

Online audiences continue to engage with us in new ways. In April 2021 we launched the Group’s first podcast, *A Brief History of Stuff*, which explored lesser-known stories behind the technologies around us. Hosted by BBC Radio 5 Live’s Nihal Arthanayake, it featured guests including curators from across the Group, an expert gift-wrapper and even astronaut Tim Peake. The podcast has now been downloaded more than 25,000 times.

Above The National Collections Centre will be home to thousands of objects

Right Staff have worked tirelessly packing, transporting and unpacking valuable objects, as well as photographing them for our online collection

IT ALL STEMS FROM HERE

600
More than 600 school children attended our Skills Fairs

We saw the return of our in-person science, technology, mathematics and engineering events and training sessions – and the atmosphere among attendees and staff was buoyant

SKILLS FOR THE FUTURE
Our STEM Skills Fairs welcomed hundreds of excited school children back into our museums to meet employers, take part in interactive workshops and get involved in careers-based discussions. The popular events encouraged young people to explore their future career prospects and discover the skills that companies are seeking from the innovators of tomorrow.

The young people met and spoke to an array of employers to discover what it's really like to work in STEM-based workplaces. They got involved in interactive Q&A sessions with a panel of professionals. They also attended our practical, career-focused workshops to explore the skills needed to work in STEM jobs.

Funders Supported by our **STEM Circle Members** Bloomberg, Cisco, Johnson & Johnson, MathWorks, Northern Trust

'It is a pleasure to deliver these community events. It reminded me why I love my job and has put a spring in my step'

Senior explainer, Science and Industry Museum

SUMMER OF PLAY
The Science and Industry Museum presented the STEM zone at Media City's Summer of Play event programme in August 2021. The Summer of Play is a national campaign to get children back outside playing and many institutions got involved by hosting free activities for families.

The 'Play with the Science and Industry Museum' zone encouraged young people to get hands-on with STEM with a workshop making flying objects. The workshops were well received with almost 500 children and parents booking across 20 sessions. Our explainers were excited to be back doing what they love – connecting with families and making STEM more accessible and engaging for all.

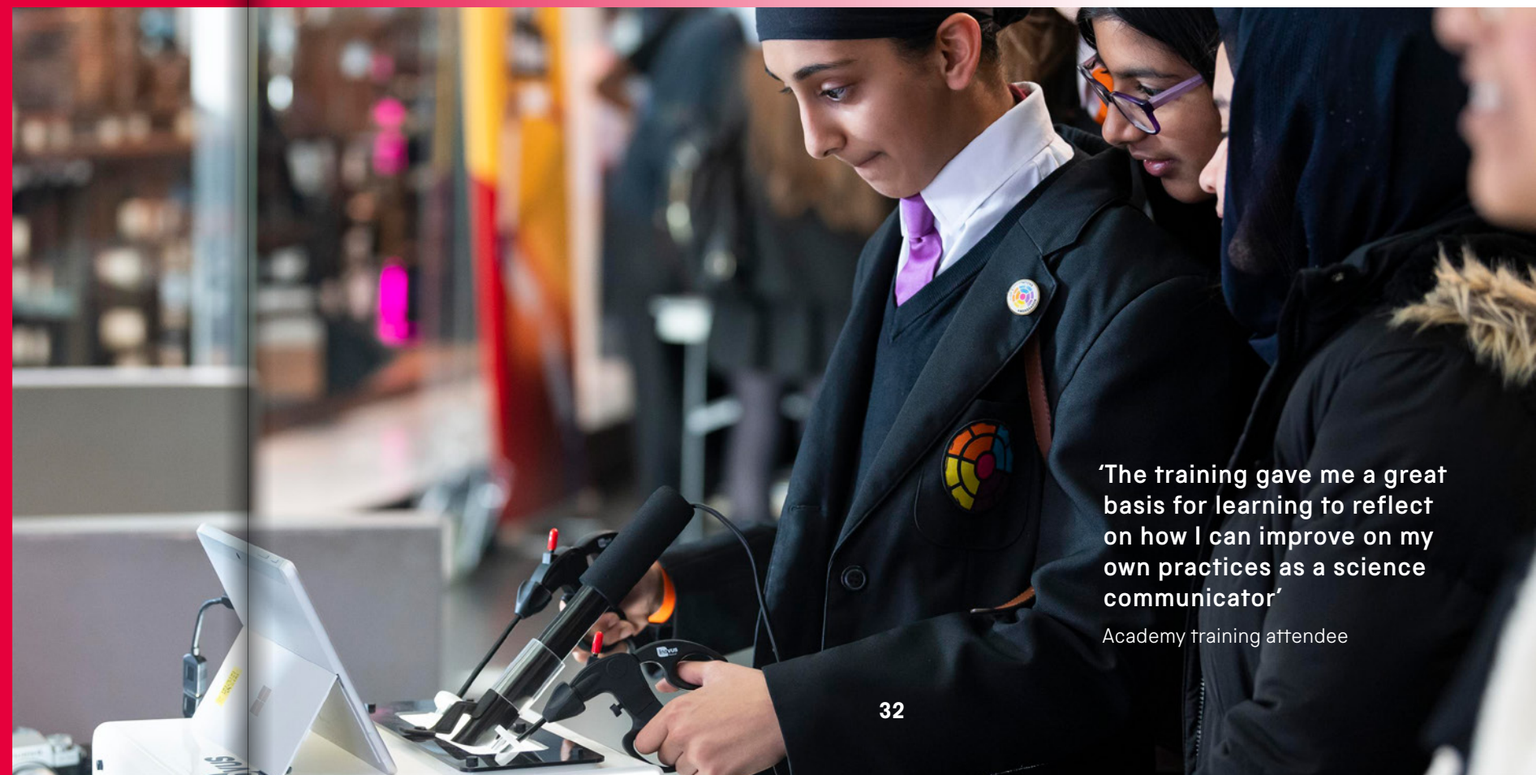
ENGAGEMENT TRAINING
More than 900 teachers, museum and STEM professionals attended the Science Museum Group's Academy training sessions. In-person training returned to our museums, including the day-long Science Engagement sessions, at the Science and Industry Museum and Science Museum, which are practical courses that help teachers to create engaging and inspiring STEM learning experiences for their pupils.

A plethora of international sessions were also delivered. The training team worked with museum specialists at the Danish Museum of Science and Technology, and presented to the Beijing Association for Science and Technology and Hong Kong Science Festival to help increase science engagement across the globe.

A new training studio has also been built at the Science and Industry Museum to create a welcoming hub for in-person training.

Funders STEM Skills Fair at the Science Museum: **Supported by** our STEM Circle Members Bloomberg, Cisco, Johnson & Johnson, MathWorks and Northern Trust. Science Museum Group Academy: **Founding partner** bp **Major partner** MathWorks

Above and below Skills Fairs and STEM workshops encouraged young people to engage with science and talk to potential employers



'The training gave me a great basis for learning to reflect on how I can improve on my own practices as a science communicator'

Academy training attendee

When the Science Museum reopened to the public on 19 May 2021, a small selection of objects collected as part of the Group's COVID-19 Collecting Project went on display in *Medicine: The Wellcome Galleries*. This display provides an insight into the medical and scientific advancements of the past two years, and also gives a sense of the emotional impact of the pandemic on citizens. Visitors can see historic empty vials of the vaccines which were used to administer the first mass vaccinations worldwide, along with COVID-19 testing kits and signage from the government's daily briefings.

The Collecting Project also includes a range of artworks that explore the experiences of front-line workers during the pandemic, such as Roxana Halls' portrait of Katie Tomkins, mortuary and post-mortem services manager at West Hertfordshire NHS Trust. Halls' work was featured in the BBC's *Extraordinary Portraits* series.

PANDEMIC PIECES

The Science Museum has continued to provide the public with a scientific understanding of the pandemic, and later this year a major new exhibition opens exploring the development of the vaccine

Other artworks acquired include *Alan Measles – God in the time of Covid-19*, by Grayson Perry, now on display in the *Medicine* galleries. Inspired by historic albarello jars, the artwork presents a narrative of lockdown experiences featuring Chris Whitty, Alan Measles (Perry's famous teddy bear) and Perry's alter ego Claire.

The Science Museum Group, with the exhibition's funder, Wellcome, has also partnered with the National Council of Science Museums India, and the Guangdong Science Centre and its network in China on a major new project for 2022 exploring the history and science behind the massive COVID-19 vaccination programme which, in a first for the Science Museum Group, will open in three international venues simultaneously.

The exhibitions are due to open in all regions in November 2022, followed by a national tour to multiple venues until late 2025.

'This work reflects my state of mind during a time of great fear and uncertainty. Alan Measles – my personal metaphor for God, masculinity, care and security – is shown distraught because his other half is seriously ill. His efforts helping at the hospital are mocked by protesters. Depressed and exhausted, he joins a group of homeless people beneath a motorway'

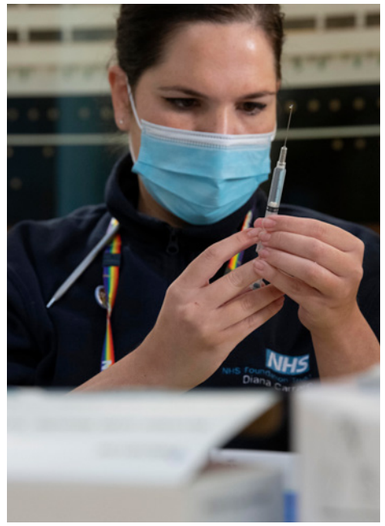
Grayson Perry, artist

Funders The acquisition of *Alan Measles – God in the time of Covid-19* by Grayson Perry has been made possible with the support of Art Fund (with a contribution from the Wolfson Foundation), the Victoria Miro Gallery, Contemporary Art Society and Hiscox Foundation

'Yesterday I received my first dose of the Covid-19 vaccine at London's Science Museum. I'm hugely grateful to everyone who is playing a part in the rollout – thank you for everything you are doing'

HRH The Duchess of Cambridge

BIG BOOST



100,000

The NHS vaccination centre was first open from 11 March to 5 September 2021, and delivered more than 100,000 doses in that time

In March 2021, while still closed to the public, the Science Museum hosted a vaccination centre, playing a role in the historic national rollout of COVID-19 jabs

The NHS Vaccination Centre at the Science Museum ran for six months from March to September 2021, before reopening in December to help support the booster campaign in light of the Omicron variant.

The vaccination centre was visited by a number of famous faces (and arms) getting their COVID-19 jabs, including the Duke and Duchess of Cambridge, Cressida Cowell, the children's laureate, Sophie Raworth, BBC broadcaster, and Greg Hands, Conservative MP for Chelsea and Fulham, to name a few. Jonathan Van-Tam also helped out at the centre, vaccinating the then health secretary Matt Hancock.

The Science Museum was the first national museum in the UK to host a vaccination centre and support the NHS mass-vaccination programme in this way. Providing this vital public service is an important part of the Science Museum Group's response to the coronavirus pandemic, which included producing engaging learning resources for home-schooling, hosting virtual talks on the front-line response to the pandemic and identifying objects for our COVID-19 Collecting Project.

The COVID-19 Collecting Project at the Science Museum Group has been running since February 2020 and includes the empty vials of the Pfizer/BioNTech and Oxford/AstraZeneca COVID-19 vaccines used for the first vaccinations in the world, donated by NHS England to the Science Museum Group Collection. The vials, testing kits and signage from the government's daily briefings form part of a COVID-19 display in *Medicine: The Wellcome Galleries*, the world's largest galleries devoted to the history of medicine. The display was opened to the public when the Science Museum reopened in May 2021.

Members of the public have been able to study the vials, alongside a timeline of key objects from the history of vaccination and displays about other infectious diseases such as Ebola, polio and the plague.

Above right A health worker prepares to administer the vaccine in the Science Museum

The Group's first International Strategy was agreed in 2012, signalling our ambition to be a 'truly international organisation'. Ten years on, we have realised that aspiration and continue to grow our international reach and impact.

International activity often starts early, drawing on networks and relationships that are sustained over years. For *Ancient Greeks* we started identifying potential Greek lenders, partners and supporters from 2018. *Amazônia* started with a 2019 meeting with Sebastião Salgado in Amsterdam, convened via our partner, the Museum of Tomorrow in Rio de Janeiro.

UK-based projects may also have an international 'long tail', most obviously touring exhibitions. Despite pandemic-induced restrictions, our teams made heroic efforts to successfully deliver *Robots* at the Hong Kong Science Museum in November 2020. By the time it closed in May 2021 it had been seen by 105,000 visitors.

Exhibitions may be shared through our cost-effective and sustainable Blueprint Packs – digital resources for repurposing the content in a local context. The Sinaloa Science Centre in Mexico showed *Driverless* from November 2021 to March 2022, the third Blueprint exhibition at this venue.

A lot of international activity in 2021–22 took place behind the scenes, preparing for galleries and exhibitions opening within the next couple of years, including *Science Fiction*, *Zimingzhong* and *Energy Revolution*. Other projects are for further in the future, including exciting initiatives with space agencies in several countries. We are co-developing exhibitions on vaccines with partners in the UK, India and China, launching in autumn 2022 and supported by Wellcome. Our professional training offer is also taking off, with new clients from Denmark to Qatar.

International working such as this supports the wider UK soft power agenda through science and culture. More importantly, it delivers our mission and demonstrates our values within and beyond our walls.

GLOBAL CONNECTIONS

'Culture and civilisation are a means of fostering ever closer ties between our two countries. And what better way to celebrate this than through the achievements in science and wisdom of the ancient Greeks. We have enjoyed our participation immensely in what I believe could well turn out to be a landmark exhibition'

His Excellency Ioannis Raptakis, Ambassador of Greece to the UK

Left A young visitor interacts with a robot at the Hong Kong Science Museum

STEP FORWARD, TOP PERFORMERS

The Group's network of volunteers continue to work tirelessly to help the Group grow and deliver an outstanding experience to visitors

Volunteering is an incredible way for us to grow our audience and increase participation in our museums. With our new volunteering strategy, the inception of the National Collections Centre's volunteer programme and exciting new partnerships, this year, more than any other, we have provided inspiring experiences that are open for all.

At the Science Museum, youth volunteers supported the Technicians programme, training colleagues to engage underrepresented teenage audiences. While at Locomotion our youth team developed our first Loco Lates event and our partnership with Groundworks and Brightwater saw us provide young people not in education or training with skills development opportunities in gardening and grounds maintenance.

Partnerships play an important role in increasing access to all our volunteer programmes. In Manchester, with Breakthrough UK, we provided placements that help disabled people live and work independently. And in Bradford, community partners recruited volunteers to programme films in our cinema – including our 'Wonders of Bradford' series.

By harnessing the potential of digital, we have also increased access to our programmes and our collections. The National Railway Museum's *Open for All 360* project volunteers have trialled the use of tablets with visitors to improve access to locomotives. Meanwhile our Wikimedia project has removed barriers to participation, enabling volunteers from across the Group to enrich, edit and create Wikipedia entries from home.

Of course, volunteers continue to make an incredible operational impact. They were crucial to moving 300,000 objects from Blythe House, generated £100,000 of income through the National Railway Museum's miniature railway and helped bring to life the Science and Industry Museum's *Top Secret* and *Cancer Revolution* exhibitions for 6,500 visitors.

We have also continued to be a leading voice in volunteering, supporting organisations from The National Portrait Gallery to The Net, sharing our expertise at the AIM and Inside Government conferences and leading the Heritage Volunteering Group and HVG Northeast.

'I am grateful for the opportunity to learn new things and the training that has been provided. The warmth and respect shown to the volunteers make it a lovely place to volunteer for and be part of'

Volunteer, Science and Industry Museum, Manchester

Above Our team of dynamic and enthusiastic volunteers at the National Science and Media Museum in Bradford

CONSERVATION

Whether it's Stephen Hawking's blackboard or a mechanical tree, the Group's conservation team has been hard at work caring for the objects in our collection

SPECIALIST CARE

Below Emily Yates, conservation and collections care manager, with Stephen Hawking's wheelchair, which has been acquired by the Group

'It's wonderful to see my father's working environment recreated at the Science Museum as part of a highlights display'

Lucy Hawking

CONTINUED...

6.2 TONNES

As part of the closure of *Challenge of Materials* at the Science Museum, the team moved the Materials House, which weighed 6.2 tonnes

This year, purpose-built conservation spaces opened in the new collection management facility at the National Collections Centre in Wroughton, near Swindon. The spaces provide flexible work areas for colleagues who care for the rapidly growing number of objects stored on site.

One of the first major acquisitions to undergo conservation work in the new space is the contents of Stephen Hawking's Cambridge office. These objects have been being meticulously cleaned, catalogued and cared for, helping provide insights into the life and work of the nation's most famous physicist.

Hawking's blackboard, covered with drawings and in-jokes scribbled by visitors to his office, is now on display at the Science Museum in London. The blackboard presented a number of challenges to the team, the main area of concern being the risk of chalk dust being dislodged by movement during transit and installation. Conservators trialled a range of approaches to develop a method of securing the chalk to the surface of the board without altering its appearance. In the end a bespoke frame was commissioned to reduce the impact of light on the chalk markings and to further protect the delicate surface of the board.

At the Science and Industry Museum the final object left the Air and Space Hall in February 2022. Conservators have been busy carrying out an inventory, assessing hazards, and packing and preparing 200 objects to move. The objects include a cuddly toy cat – Lucky Jim – who was taken on the first non-stop transatlantic flight, alongside historic transport objects such as the AVRO Shackleton.

At the Science Museum the closure and opening of new galleries and exhibitions also kept the conservation team busy, including the careful installation of objects into two new exhibitions, *Ancient Greeks* and *Our Future Planet*.

'This new facility will revolutionise public access to one of the most significant scientific collections in the world, enabling us to continue our mission to inspire futures while providing an environmentally friendly, purpose-built home for the Science Museum Group Collection for the first time'

Jonathan Newby, former managing director, Science Museum Group

Above The conservation studio in Building ONE at the National Collections Centre, Wroughton

Below A member of our team works on the digitisation of the *Daily Herald* Archive

GOING DIGITAL

A transformation of access to UK collections is in the air, and research projects are paving the way. The Science Museum Group, combining its strategic commitments to digital innovation and focusing research activity on Group priorities, has been successful in funding applications to the Arts and Humanities Research Council for three substantial digital projects.

These map how digital techniques can address issues related to: the countrywide rudimentary level of cataloguing; lack of interoperability between online collections; and consequent difficulty of access for people of all kinds.

Two of these projects are funded under AHRC's 'Towards a National Collection' scheme, established with great foresight to achieve fully open collections. *Heritage Connector* was a two-year £201,000 project running across 2020 and 2021 led by John Stack, the Group's digital director. It used artificial intelligence techniques to build a knowledge graph (a kind of database of links) containing the Group's collection, blogposts and *Journal* papers, along with a selection from the V&A's collections and relevant entries from Wikidata, the online knowledge base.

The project showed that it was possible, with advanced programming techniques, to overcome the rather basic level of many collection records, and to create new interfaces that open our collection to the resources of the wider internet.

The Congruence Engine, taking its inspiration from *Heritage Connector* and led by Tim Boon, our head of research, is a £2.9 million, three-year investigation, in which we will study industrial history by linking collections of all kinds using digital techniques. Geoff Belknap, head curator at the National Science and Media Museum, is leading *Communities and Crowds*, a £250,000 study linking participative selection of *Daily Herald* Archive photographs to crowdsourcing of contextual information.

The findings of these projects will inform the Group's digital and curatorial agendas for years to come.

WHAT WE ACQUIRED

In 2021–22 we added 2,370 objects to the Science Museum Group Collection. Here are 10 highlights

The Shirley Beljon Collection
Shirley Beljon was a fashion photographer in the 1970s and 1980s. She began her career as a model but then took up photography, vowing to create images that did not objectify her subjects. Beljon's photographs and equipment are an exceptional example of professional practice at the end of the analogue era.

Objects from Tannoy factory
Many people know the name 'Tannoy' – and think of it as a generic term for public address systems. But Tannoy Ltd is an iconic British company at the heart of the development of audio technologies. Almost a century's worth of their technology, from microphones to lab tools, have now joined the collection.

George Stainton photographs
These 100-year-old photographs of the family of railway workers in the West Midlands have been donated to the collection after being found in the back of a wardrobe. Railwayman George Stainton took this photograph of his son, Sidney, holding a toy engine in around 1901. Sidney later became an engine driver himself.

Cantlie archive accrual
This photograph of Kenneth Cantlie and Zhon Enlai, the first Premier of the People's Republic of China, comes from Cantlie's archive from his time in China as a Locomotive Manufacturers Association representative.

HTA coal hopper wagon
Coal-carrying traffic declined dramatically during the early 21st century, but this was one of over 1,100 coal hopper wagons built by Thrall Europa in York between 2001 and 2004.

Alan Turing pardon campaign beer mat
Computing pioneer Alan Turing was convicted under British anti-gay laws in 1952. Sixty years later, this beer mat (and many other related items recently acquired) formed part of the successful campaign for his pardon – a campaign which led to pardons for thousands of other individuals convicted under the same discriminatory laws.

Nightingale Hospital bed set
The acquisition of a complete bed space from Manchester Nightingale North-West Hospital was a result of the rapid COVID collecting across the Group. It captures the story of how designers and medical staff adapted buildings and equipment to respond to an urgent care need.

Incubator used by Robert Edwards and Patrick Steptoe
This embryo incubator was used in the creation of the world's first 'test-tube babies' in 1977. It joins the collection after being publicly displayed at the Science Museum in 2016 as part of the *IVF: 6 Million Babies Later* exhibition.

Prototype 'green number plates' for zero-emission vehicles
Released in 2020, these bespoke number plates were commissioned by the UK government's Department for Transport to promote the introduction of green number plates in Britain for zero-emission vehicles.

Lapel pin badge in the shape of a yellow heart
Yellow hearts were widely adopted as a symbol of remembrance during the COVID-19 pandemic. 7,000 pins were distributed to mourners, NHS staff and keyworkers in solidarity with the bereaved.

WHAT WE LOANED

In the past year, the Group loaned 1,874 objects to 156 different venues in the UK and 178 objects to another 17 venues overseas. Here are 10 highlights

Rigged model of the screw steamship 'Great Britain', c.1843
To: Being Brunel Museum, Bristol.
Showing the vessel designed for the Great Western Steamship Company by Isambard Kingdom Brunel. Presented by the company's directing engineer, Thomas Guppy, it is on long term loan.

Great Western Railway Poster 'Paignton, South Devon', 1938
To: Pontefract Museum, Wakefield.
Demonstrating Art Deco style, this poster was loaned to the exhibition *Bracing Air, Abundant Amusements: Charles Pears and the Golden Age of the Travel Poster*.

Cameo camera, 1915–1920
To: Leeds University Library Galleries, Leeds.
Used by Frances Griffiths and Elsie Wright in 1920 to produce their fifth and final forged photograph of fairies. Loaned for the exhibition *Cottingley Fairies*.

'Beatrice', a photographic study of Mary Emily 'May' Prinsep by Julia Margaret Cameron, 1866
To: National Museum of Warsaw, Poland.
From the Herschel Album, created for Sir John Herschel. Loaned for the exhibition *Dante*. The photograph portrays Beatrice Cenci, a character in Percy Bysshe Shelley's play 'The Cenci' (1819).

Folding box camera by Thomas Ottewill and Company, 1853
To: Victoria & Albert Museum, London.
Loaned for the exhibition *Wonderland*. Compact for carrying and field work, it combines a sliding box design with the folding principle to make a robust yet portable camera.

A photograph entitled 'Clacton Disturbances', 30 March 1964 by C Smith for the *Daily Herald*
To: Grundy Art Gallery, Blackpool.
100 arrests were made over the Easter weekend of 27–30 March 1964 in Clacton, following clashes between youth subculture groups of Mods and Rockers. Loaned for the exhibition *Seaside: Photographed*.

Aquatinted illustration, 'Travelling on the Liverpool and Manchester Railway' by Isaac Shaw, 1831
To: Royal Museums of Fine Arts of Belgium, Brussels, Belgium.
Loaned for the exhibition *Tracks to Modernity*, the illustration depicts the locomotive *Jupiter* pulling carriages. The Liverpool and Manchester Railway was the first to transport the mail.

Mauveine dye sample, before 1900
To: The Frances Young Tang Teaching Museum and Art Gallery at Skidmore College, New York, USA.
From Edward Schunck's work in Manchester on natural dyes. Mauve became a fashionable colour between 1858 and 1863. Loaned for the exhibition *Radical Fiber: Threads Connecting Art and Science*.

Gold filigree case containing a bezoar
To: Tokyo Station Gallery, Tokyo, Japan.
Bezoars are stony concretions of indigestible materials, found in the stomachs and intestines of animals and humans. Loaned for the exhibition *Harry Potter: A History of Magic*.

London and North Eastern Railway 2-6-2 No. 4771 *Green Arrow*
To: Danum Gallery, Library and Museum, Doncaster.
Designed by Nigel Gresley, this famous and powerful locomotive was built at Doncaster Works in 1936 and is now on loan to the town's new museum.

THE WORLD'S GREATEST ALLIANCE OF SCIENCE

Above Artist's impression of the new Power Hall at the Science and Industry Museum, Manchester

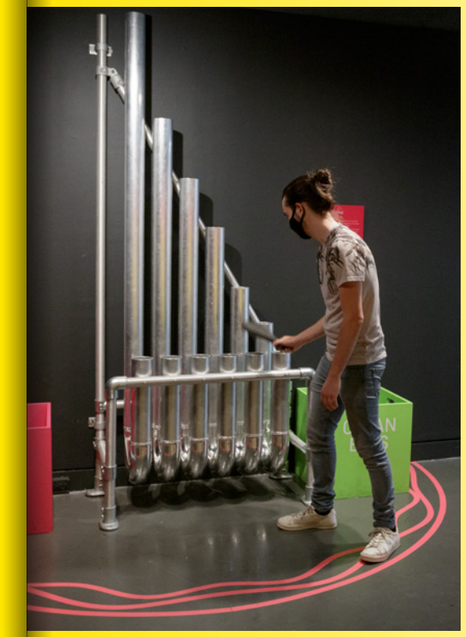
Left *Ancient Greeks* at the Science Museum, London

Right Artist's impression of the new building at Locomotion, Shildon

'One of the most moving, thought-provoking, beautifully curated exhibitions I've seen in years'

The Londonist, reviewing *Amazônia* at the Science Museum

Right Artist's impression of the new entrance at the National Railway Museum



Above *Boom* at the National Science and Media Museum, Bradford

Bottom The National Collections Centre in Wroughton

SCIENCE MUSEUM

For more than a century the Science Museum has inspired visitors through stories of science, technology, engineering and medicine. In 2021–22 the museum proudly hosted an NHS vaccination centre, with visitors able to see items from the COVID-19 Collecting Project on display after receiving their vaccination. Three exhibitions, *Ancient Greeks*, *Amazônia* and *Our Future Planet*, opened to the public as visitors returned to the museum in large numbers. The museum also hosted the Art Fund Museum of the Year awards after winning the prestigious prize in 2020, marking a decade of transformation for the museum under Sir Ian Blatchford's leadership.

SCIENCE AND INDUSTRY MUSEUM

The Science and Industry Museum in Manchester explores how ideas can change the world, from the Industrial Revolution to today and beyond. Located on the site of the oldest surviving passenger railway station, in the heart of the world's first industrial city, the museum reveals the people, places and skills behind 250 years of discoveries and innovations that began in Manchester and shaped the modern world. Our programme of exhibitions, experiences and events, including the Manchester Science Festival, brings science to life for people of all ages. A multimillion-pound project is under way to restore this globally significant site and open up new spaces for all to enjoy, learn, play and be inspired in.

NATIONAL SCIENCE AND MEDIA MUSEUM

The National Science and Media Museum in Bradford explores the science and culture of image and sound technologies and their impact on our lives. We hold world-famous collections in photography, film and television, from the first experiments to the digital revolution, while our three-screen cinema, Pictureville, including Europe's first permanent IMAX theatre, allows us to showcase films and formats from around the world. The *Sound and Vision* galleries, due to open in 2024, will bring together star objects from our collection to present a comprehensive narrative of the unfolding history of the still and moving image.

NATIONAL RAILWAY MUSEUM

The National Railway Museum in York is home to the world's greatest collection of railway objects. Set in former railway buildings, the museum attracts visitors from around the world and tells inspiring stories that bring together the past, present and future of innovation on our railways. It has an unrivalled collection of world-famous locomotives (*Mallard*, *Flying Scotsman* and *Rocket*, to name just a few) and royal carriages alongside a programme of exhibitions and events. Vision 2025 is a transformation of the museum that will reimagine the story of the railways, showcasing the latest technology and providing an interactive experience and a world-class welcome to our visitors.

LOCOMOTION

Locomotion displays highlights of the national collection of rail vehicles in Shildon, the world's first railway town, in County Durham. The museum celebrates early pioneers of the Stockton and Darlington Railway and their impact on the global railway story. It is home to historic vehicles such as Locomotion No.1, the first steam-powered locomotive to run on a public railway, and HST Power Car 43102, the world's fastest diesel locomotive. The on-site workshop allows visitors to watch the engineering skills of staff and volunteers in action, who restore a wide variety of vehicles, including a Class 306 which transformed post-war commuter travel.

NATIONAL COLLECTIONS CENTRE

The National Collections Centre has been part of the Science Museum Group for more than 40 years. The site is home to half a million items from the Science Museum's Library and Archives and around 35,000 large objects from the Group's collection. Located on the former RAF Wroughton airfield near Swindon, this 545-acre site has large open grasslands, native woodlands and runways. The centre also plays a vital role in the Group's sustainability and biodiversity activities. It hosts one of the UK's largest solar farms and has established habitats for wildlife and trees. The facility will open regularly for public tours, school and research visits from 2024.

OUR GENEROUS SUPPORTERS

The financial support of visitors and partners provides critical funding for the Science Museum Group's core priorities and future plans. We are hugely grateful to all the individuals and organisations named here, and our many anonymous supporters, who have enabled us to continue our vital work in 2021–22, and would like to say a huge thank you

SCIENCE MUSEUM

Individual philanthropists, trusts, foundations and government
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VISION 2025, NATIONAL RAILWAY MUSEUM AND LOCOMOTION

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'The last two years have highlighted the value of like-minded organisations working in partnership with each other and shown what can be achieved through collaboration'

Michelle Mitchell, chief executive, Cancer Research UK

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Google Arts & Culture
National Lottery Heritage Fund
Players of the People's Postcode Lottery
PPG
University of Bradford

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The Science Museum Foundation is a registered charity committed to providing resources and advocacy to support the vision and mission of the Science Museum Group

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We gratefully acknowledge the support of the Department for Digital, Culture, Media and Sport, whose funding on behalf of the UK public makes our work possible.

The Science Museum Group would also like to thank the numerous visitors and online donors that have supported the museums this year.

SUPPORT THE SCIENCE MUSEUM GROUP

Do you want to help build a society that celebrates science, technology, engineering and maths and their impact on our lives, now and in the future?

By supporting the Science Museum Group, you will help to transform the way that people think and feel about STEM. You will join a valued community united by a fascination with science, technology and innovation and a passion for passing that sense of discovery onto wider audiences and inspiring future generations.

For further information please contact:
Deborah Myers
Director of Development
Science Museum Group
deborah.myers@sciencemuseum.ac.uk

Right Science Museum Group stakeholders and special guests at the funder preview of *Cancer Revolution: Science, Innovation and Hope* at the Science and Industry Museum

FINANCIAL SUMMARY 2021–22

FINANCIAL OVERVIEW

2021–22 was a year of partial recovery after the challenges of the previous 12 months. We reopened our sites in May 2021 and saw a stronger return of visitors than we had forecast, allowing us to build back our commercial operations to around 60% of pre-pandemic levels. We are grateful to the government for its continued support measures, which included additional Grant in Aid, business rates relief and the furlough scheme, and to our other funders for their support; together, these have allowed us to build back with confidence and resilience.

Grant in Aid from the Department for Digital, Culture, Media and Sport, which included the COVID support fund as well as significant contributions to the One Collection and Vision 2025 programmes, represented 63% of our total income, down from 80% in 2020–21 but still higher than our historic levels of 50–55%. Trading income increased four-fold from the previous year, through a combination of retail, catering, commercial experiences and corporate events. As detailed elsewhere in this review, we also received significant grant funding for both capital and non-capital projects, such as the Power Hall decarbonisation project, the Vision 2025 programme and *Heritage Connector*. We thank all our funders for their support throughout the year.

Expenditure was more than 10% higher than in 2020–21, though still 25% below the level of 2019–20, and the proportion of our expenditure spent on front-line activities returned to pre-pandemic levels. Capital expenditure remained strong, with major projects in train at all our sites, accounting for 26% of our total expenditure in the year. Full statutory results will be available in our Annual Report & Accounts, which are laid before Parliament each autumn.

The Group is pleased to have secured a funding settlement for the next three years that will allow us to rebuild with confidence and to support the delivery of our ambition as set out in *Inspiring Futures*.

SCIENCE MUSEUM GROUP VISIT NUMBERS 2021–21

Total number of visits to the museums	London	Manchester	York	Locomotion	Bradford	Group
Pre-COVID 3-year average	3,232,000	636,000	754,000	182,000	468,000	5,273,000
2020–21	208,000	36,000	89,000	16,000	11,000	360,000
2021–22	**1,395,000**	**262,000**	**462,000**	**70,000**	**139,000**	**2,327,000**

Any anomalies in totals and % differences arise from roundings

PHYSICAL VISITS
This year, we reopened our doors at all our sites on 19 May, welcoming 2,327,000 visitors to our museums over the year, ahead of our initial expectations. This was 44% of average pre-pandemic levels, a considerable increase on the 360,000 (7% of pre-pandemic averages) achieved the previous year. We continued to deliver a 5-day-a-week operation, extending to 7 days a week in holiday periods, with the National Science and Media Museum opening its cinema operation at full capacity and opening seven days a week when big releases justified this. Capacity limits in line with social distancing supported by free admission tickets remained throughout the year.

A key priority looking forward will be to continue to rebuild our audiences. With international audiences returning slowly our focus continues to be on building domestic audiences.

As we complete a number of major redevelopment projects at our four museums in the north of England and international tourism returns, we anticipate achieving pre-pandemic visitor levels by 2025–26.

OFF-SITE VISITS
This year we reintroduced some of our off-site activities with 16,000 instances of people taking part. The largest of these was Bradford Science Festival, with activities taking place in the museum, in City Park and both city-centre shopping centres. We have also continued our live digital delivery with our Climate Talks and Open for All talks series, STEM Ambassador Hub programme and Science Museum Group Academy training. In addition, whilst our touring exhibitions programme was more limited this year following worldwide museum closures, more than 167,000 visits have been reported to our exhibitions touring internationally.

OUR DIGITAL AUDIENCE
Overall visits to the Group's websites were over 12.5 million, up 65% on 2020–21 as visitors have returned to our sites and booked online tickets. The step change in access to the Group's digital content continued this year, as we promoted at-home digital content across our websites and our other digital channels, including podcasts, apps and partnerships, with 7.06 million visits (not far off our record-breaking 7.3 million in 2020–21 and significantly ahead of the 4.8 million in 2019–20).

WHO'S WHO IN OUR GREAT SCIENCE ALLIANCE

THE SCIENCE MUSEUM GROUP COMPRISES:
Science Museum, London
National Railway Museum, York
Science and Industry Museum, Manchester
National Science and Media Museum, Bradford
Locomotion, Shildon
National Collections Centre, Wroughton
SCMG Enterprises Ltd

BOARD OF TRUSTEES OF THE SCIENCE MUSEUM GROUP
The Board of Trustees of the Science Museum is responsible for the whole of the Science Museum Group. The trustees, who may number between 12 and 20, are appointed by and responsible to the prime minister through the Department for Digital, Culture, Media and Sport (DCMS). The director of the Science Museum Group, as chief executive officer, is responsible to the Board of Trustees; and, as accounting officer, is accountable to DCMS for compliance with the management agreement. Within the framework of their statutory duties as stated under the National Heritage Act 1983, the role of the trustees is to establish Group policy, review performance and endorse appointments to key management positions.

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NEW FELLOWS OF THE SCIENCE MUSEUM
Awarded in recognition of the scientists and individuals who have changed our world through academic research, design, technology and philanthropy.

Deborah James in recognition of her tireless work on social media, blogs and articles to spread positivity and awareness about cancer research, treatments and the experience of patients. She provided invaluable support for our *Cancer Revolution* exhibition.

The Lord Sainsbury of Turville in recognition of his great dedication and generosity towards science through his work as Minister for Science and Innovation and his outstanding record of philanthropy, such as the Science Museum's Technicians Gallery.

Professor Alice Gast in recognition of her dedication to science through her leadership at Imperial College London, which has strengthened the Science Museum Group's partnership with Imperial.

Professor Lord Stern in recognition of his exceptional leadership of the science of climate change at the London School of Economics, academic partner of the Transition Pathway Initiative, an invaluable tool for the Science Museum Group.

Professors Dame Sarah Gilbert, **Sir Andrew Pollard** and **Teresa Lambe OBE** in recognition of their extraordinary work in developing a vaccine to protect against COVID-19 and for their support of the Science Museum Group's COVID-19 Collecting Project and vaccine exhibition.

Left Boris Johnson in conversation with Bill Gates at the Science Museum in October 2021

'The fantastic £9.7 billion of new investment we have secured today will power our economic recovery, creating thousands of jobs and helping to level up across the country'

Prime Minister Boris Johnson

INVESTING IN **THE FUTURE**

The Science Museum hosted a gathering of politicians, businessmen and scientists to discuss the green industrial revolution

International figures in industry and investment, who collectively represent $24 trillion, gathered in the Science Museum in October 2021 at a summit hosted by Prime Minister Boris Johnson.

The Global Investment Summit, which took over the entire museum and included a special meeting of the Cabinet in the museum's Smith Centre, focused on attracting international funding for the prime minister's 'green industrial revolution'.

Delegatesincluding philanthropist Bill Gates, GlaxoSmithKline CEO Emma Walmsley and Ngozi Okonjo-Iweala, director-general of the World Trade Organisation, were able to explore the museum's vast galleries and exhibitions, including ones devoted to the Amazon rainforest and carbon capture, and meet developers of green technologies, from a prototype fusion device to electric aircraft engines.

Among the announcements was a major partnership with the Gates Foundation to boost UK green tech investment. Appearing on stage at the museum's Illuminate conference venue with the prime minister, Bill Gates referred to the museum's Energy Hall and said the partnership would accelerate the deployment of critical, affordable and accessible climate solutions.

Alongside business figures, such as Alison Rose, CEO of NatWest Group, Shemara Wikramanayake, CEO of Macquarie Group, Amanda Blanc, group CEO of Aviva and Jamie Dimon, CEO of JP Morgan Chase, the audience also included dignitaries such as the US climate envoy John Kerry, Patrick Vallance, the government chief scientific adviser, and Sarah Gilbert, who led the development of the Oxford/AstraZeneca COVID-19 vaccine.

Gilbert made a special visit to *Medicine: The Wellcome Galleries* to view the Pfizer/BioNTech and Oxford/AstraZeneca vials from the first jabs given worldwide as part of the mass coronavirus vaccination programme.

Some £5.8 billion had already been committed for sustainable projects since the prime minister launched his Ten Point Plan in 2020. After the summit, Johnson said: 'The fantastic £9.7 billion of new investment we have secured today will power our economic recovery, creating thousands of jobs and helping to level up across the country.'

'We are thrilled to be supporting this magnificent exhibition where Sebastião has captured Amazonia, bringing visibility to a forest rich in biodiversity as well as in culture'

Roberto Marques, group CEO of Natura &Co

'Seeing the *Cancer Revolution* exhibition for the first time today reminded me, powerfully, that we innovate most successfully when we work together'

Ben Osborn, managing director, Pfizer UK

'By using modern science and storytelling to bring their ancient ideas, sounds and words into the world of 2021, I hope that visitors to this spectacular exhibition will feel that the gods, muses and scientists of the ancient Greek world are still very much alive!'

Sir Ian Blatchford, director and chief executive, Science Museum Group, on *Ancient Greeks: Science and Wisdom*

OUR FIVE WORLD-BEATING MUSEUMS

Science Museum, London
National Railway Museum, York
Science and Industry Museum, Manchester
National Science and Media Museum, Bradford
Locomotion, Shildon

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‘The Science Museum’s *Amazônia* enthrals: immense monochrome images, velvet black, silvery grey, blistering white, epic in scope, sharp in landscape and human detail, drench you in the beauty yet peril of “paradise on earth”’

The Financial Times

‘The Science Museum Group’s new collections centre will help to ensure these important objects are preserved for future generations to learn from and enjoy’

Caroline Dinenage, former culture minister

‘The National Science and Media Museum is a vital part of our cultural life, entertaining and educating people in Bradford and West Yorkshire for nearly 40 years, as well as bringing in people from far and wide’

Tracy Brabin, mayor of West Yorkshire

‘It was brilliant to see Londoners getting their vaccines in one of the capital’s much-loved museums’

Oliver Dowden MP

‘*Ancient Greeks* is a remarkable collaboration not just between Greece and the United Kingdom, but between the Science Museum and a number of Europe’s most prominent museums and academic institutions’

Prime Minister Kyriakos Mitsotakis of Greece

‘We welcome the significant investments being made to restore and improve the Science and Industry Museum. What can be achieved here will bring lifelong benefit to everyone who lives in and visits the city’

Bev Craig, leader, Manchester City Council