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Our mission is to inspire the next generation of engineers

As a society, we are failing to help young people by not connecting the science, design, technology and maths they learn in the classroom with the exciting and important engineering problems and solutions in the outside world.



Sir James Dyson
Founder and Chief Engineer



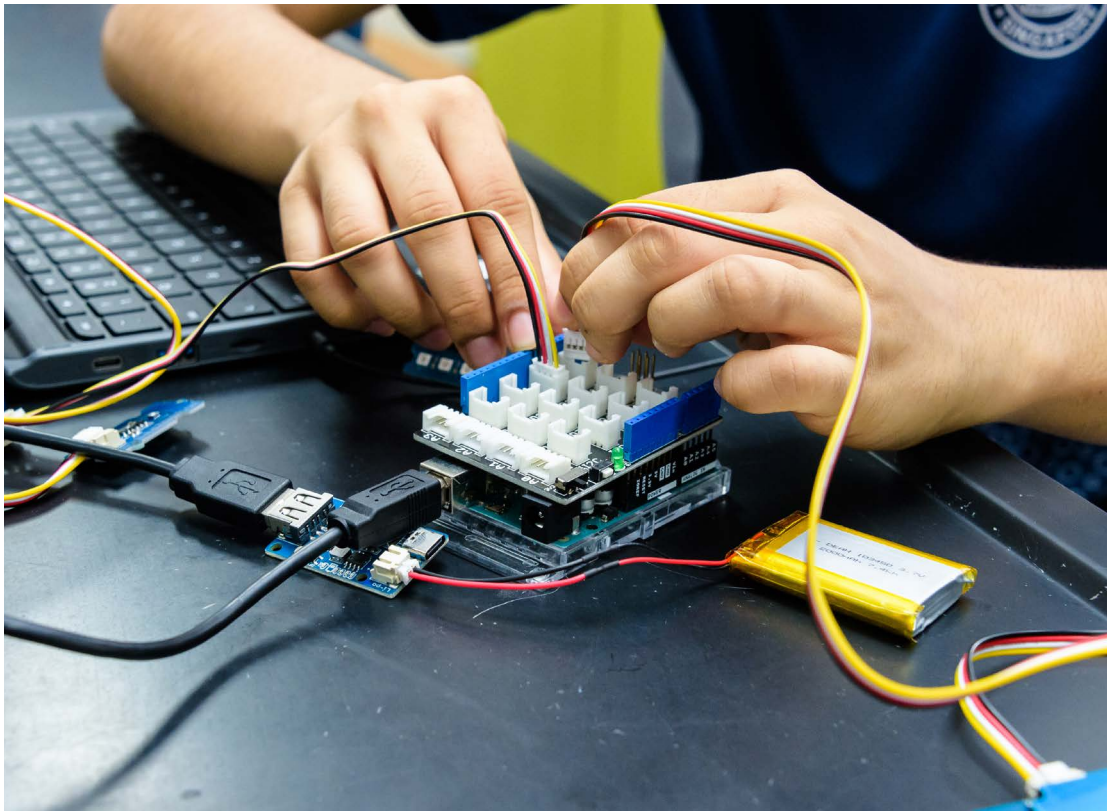
INSPIRING THE NEXT GENERATION

The James Dyson Foundation works on a global scale to inspire young people about the exciting world of engineering. We work with primary school children through to university students and graduates to ensure they have the knowledge and support needed to pursue their engineering ambitions. We also support medical and scientific research projects, and charitable causes that are local to Dyson.

We work across 29 countries and regions, with a focus on the UK, US, Singapore, Malaysia and Philippines. We're a registered charity, supported by Dyson and, to date, James and the James Dyson Foundation have donated more than £145 million to charitable causes.

In 2024, we conducted 700 events and workshops across the world reaching over 2.5 million young people. This includes rapid prototyping workshops that challenged students to design and build solutions to air pollution; robotics workshops which saw students coding robots; and large scale events engaging young people with our Challenge Cards. Our free educational resources reached almost half a million young people across the world. This includes our Engineering Box, Design Process Box and new educational resources about engineering's role in the topics of air pollution, farming and Hair Science.

We received nearly 2000 entries to the James Dyson Award, an international design competition for university students and graduates. We also continued our project with Malmesbury Primary School in the UK to expand their school site, as well as our project with Gresham's School in Norfolk UK, to renovate Grade II listed building Holt Hall for use as a Preparatory School. Our total spend for 2024 was over £5.7m.





The James Dyson Foundation provides the mentorship, materials and money that budding inventors need so they can get hands-on with problems, think laterally and find solutions.

To date, James and the James Dyson Foundation have donated more than £145 million to charitable causes.



Engineering plays a central role in driving innovation, technological progress and economic growth throughout the world. Yet the gap between the demand and supply of engineers is widening in many countries.

We believe that addressing this global shortage of engineers starts in the classroom.

Working with the James Dyson Foundation has introduced me to lots of interesting, inquisitive young people. It's really exciting being able to talk about the variety of activities I get involved in at Dyson. There are always one or two pupils whose faces light up, realising this is exactly what they want to do for their career. They just didn't know it was an option before.

Dominic
Dyson Mechanical Engineer

In 2024 we delivered 700 workshops and events, reaching over 2.5 million students. This includes rapid prototyping workshops that challenge students to design and build solutions to air pollution as well as everyday problems in a home or school environment; robotics workshops that challenge students to code robots to navigate a space; and workshops at universities across 30 countries and regions to inspire students to enter the James Dyson Award.

We also participate in large scale STEAM events challenging young people to get hands-on with engineering challenges. All our workshops and events were supported by nearly 800 Dyson engineers.



Educating educators

The Foundation also delivered nine teacher training events across the UK, Singapore, Malaysia and Chicago, providing 500 teachers with information about our approach to inspiring young people about engineering through a problem-solving focused mindset using our resources. One teacher commented that it was 'the best day of Continuous Professional Development' they had attended.





In 2024 we helped inspire almost half a million students across the world through our free educational resources based on Dyson's approach to engineering.

These resources give an insight into the life of a working engineer. Our resources are free to order and download from our website.

Challenge cards

The James Dyson Foundation worked with Dyson engineers to develop challenges designed for children to try at home or in the classroom. The cards come in a pack of 40 and are distributed at events and workshops. They can also be downloaded from our website.

Challenge Card Starter Kit

To complement our challenge card resource, the James Dyson Foundation developed a Challenge Card Starter Kit for primary schools. This box includes all the equipment needed for 30 students to complete five of the challenges.

STEAM Week

The James Dyson Foundation launched our first STEAM Week in November 2024. This initiative was designed to inspire primary school students to explore STEAM subjects through our fun, hands-on challenge cards. It also enabled us to provide teachers with more free educational resources which make STEAM subjects more accessible.

To achieve this, we donated over 100 Challenge Card Starter Kits to schools across the South West of England. The boxes included all the equipment for the five challenges, a progress-tracking poster and certificate templates to celebrate student achievements.





Physical resources

We sent out nearly 3,000 physical resources in 2024 – getting students hands-on with Dyson technology. These resources reached 85,000 students.

Design Process Box

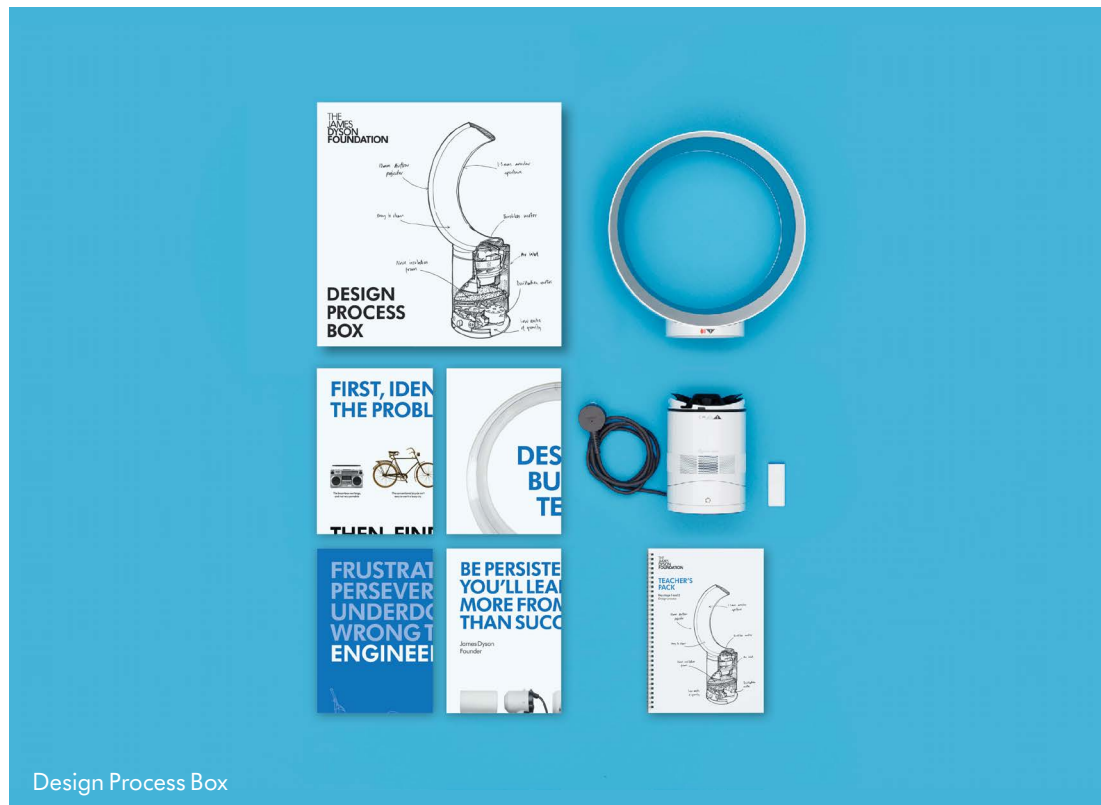
Our primary school resource introduces students to the design process, nurturing problem-solving skills engineers use every day.

The Design Process Box is a free resource to help teachers (non-specialists included) bring engineering into the classroom. Using the Dyson Air Multiplier™ fan as an example, the Design Process Box contains a comprehensive teacher's pack, lesson plans, videos and posters to guide students through the design process. Schools loan the box for six weeks, free of charge – with delivery and collection included.

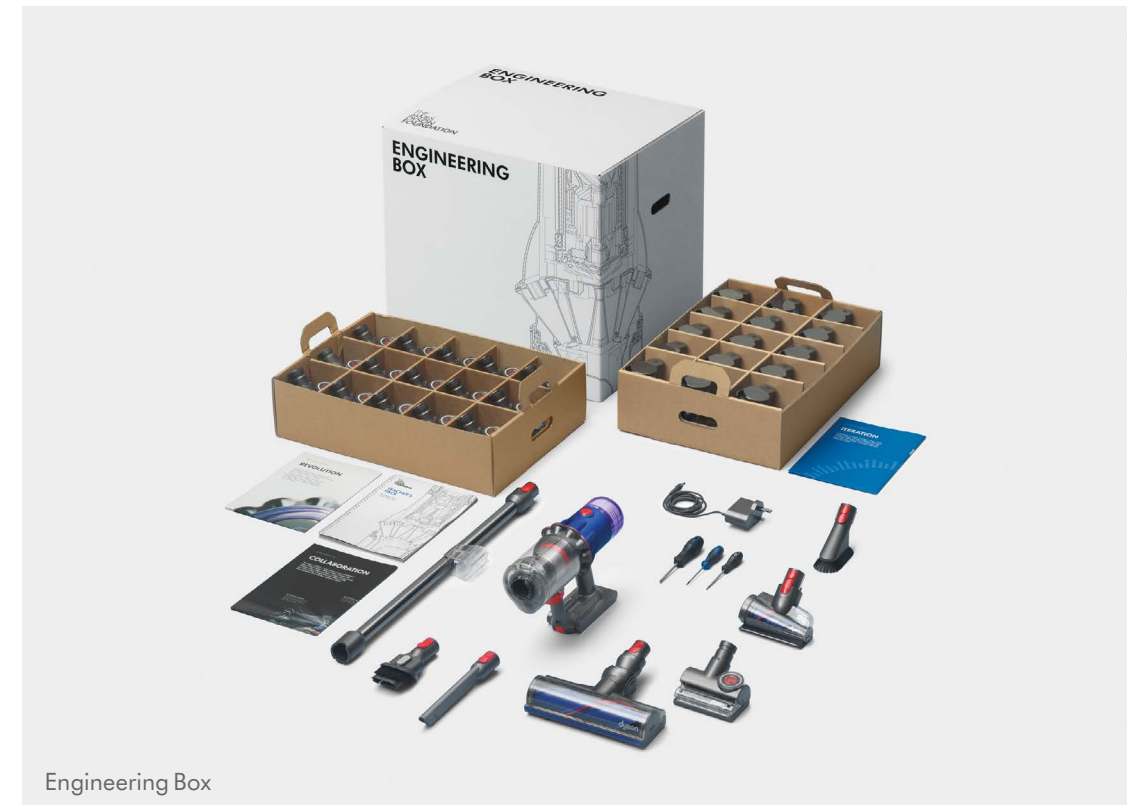
Engineering Box

Our secondary school resource introduces students to the engineering behind Dyson technology. Students get to think and act like real engineers, taking on real-world problems and building their own solutions. The Engineering Box includes a Dyson V12 Detect Slim Animal™ Vacuum, Tangle-free turbine heads, and Anti-tangle screw heads.

Students take these apart, using the screwdrivers provided, to better understand how the technology works. The box also contains a comprehensive teacher's pack, lesson plans, videos and posters. Schools loan the box for four weeks, free of charge – with delivery and collection included.



Design Process Box



Engineering Box

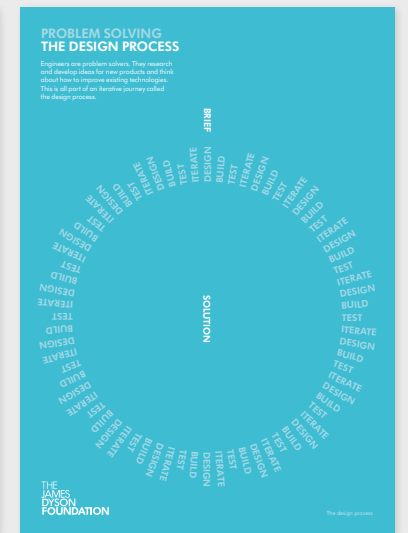
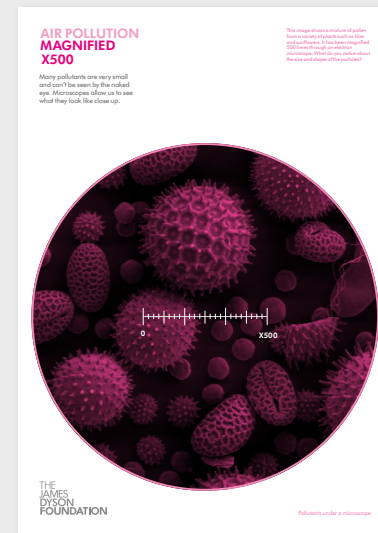
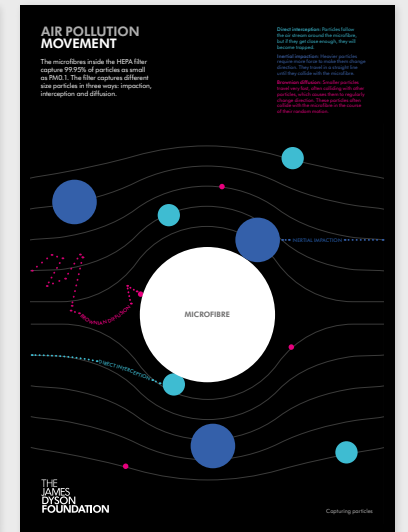
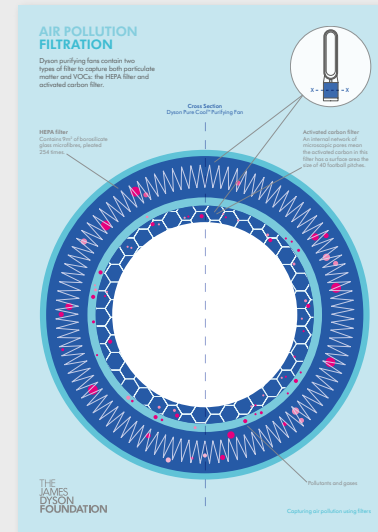
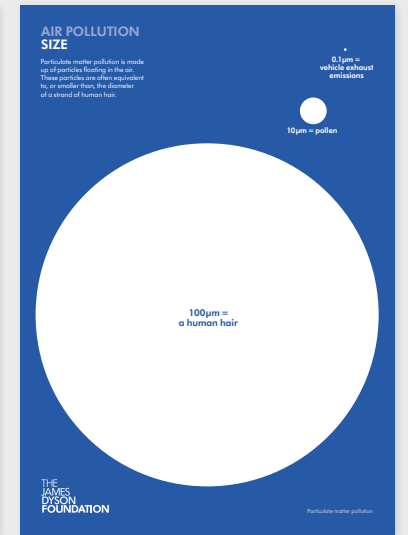
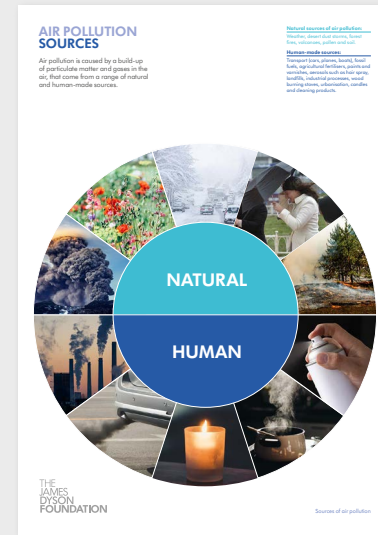
Engineering solutions: Air pollution

This resource introduces students to air science, the engineering behind the Dyson Pure Cool™ purifying fan and challenges them to design and build their own solution to air pollution.

Since the launch of the Engineering Solutions: Air Pollution resource in 2020, we have donated over 1,000 air quality monitoring kits to schools across the world empowering young people to investigate the problem of air pollution in their school and local community.

In 2024, we updated the existing air quality monitoring kits to include a new lesson plan and equipment which enabled students to collect tangible data on the air quality around them. This includes particulate matter (PM2.5 or PM10), total volatile organic compounds (TVOC) and formaldehyde (HCHO).

The new kits were first launched in schools in Chicago and Mexico City through a new initiative, Engineering Solutions: Air Pollution Week, reaching over 25,000 students.



Posters included in Engineering solutions: Air pollution

Engineering solutions: The future of farming

This resource enables students to explore how design and engineering can be applied to farming. Students will learn about the farming industry, how food is grown, harvested and produced, as well as the environmental impact of farming.

This resource is designed to complement the Science, Design and Technology and Geography curriculums at Key Stage 1 and 2.

In combination with the lesson plans, posters and videos, there is also an additional resource box to complement Lesson 5: Grow your own strawberry crop.

This box gives students access to equipment to grow their own crops, allowing them to understand how food is grown, harvested, monitored and improved through engineering principles.

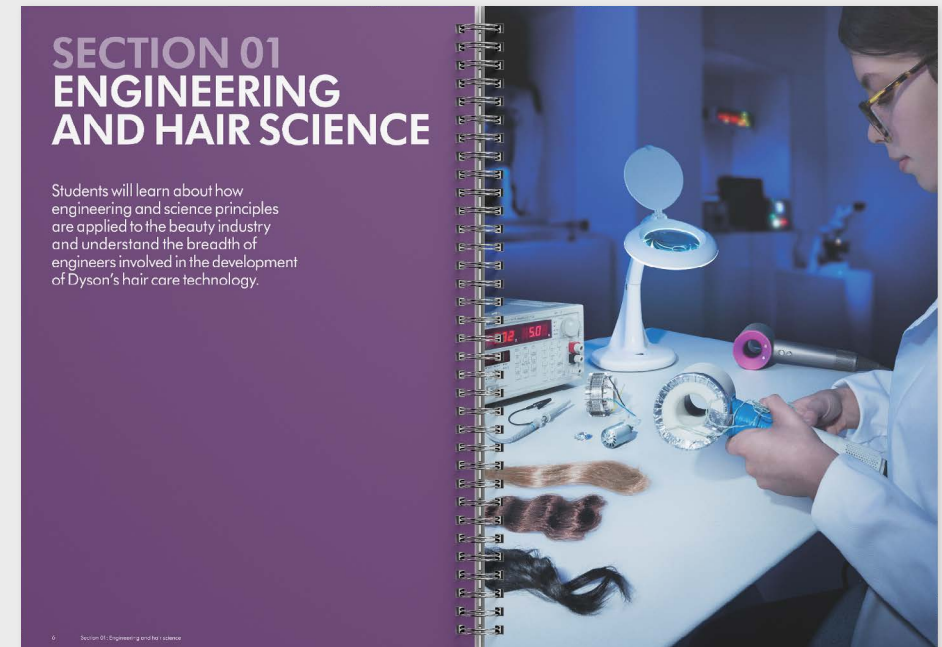


Engineering solutions: Hair science

In 2024, the James Dyson Foundation developed a new educational resource for secondary schools all about Hair Science. It enables students to learn how Dyson engineers apply science and engineering to understand all things hair.

Designed to complement the Science, Design and Technology and Mathematics curriculums at Key Stage 3 and 4, students will learn about different hair types, knowing what makes hair healthy, what causes it to become damaged, as well as understanding that hair can reflect our identity, personality and beliefs.

This digital resource contains lesson plans for teachers, supporting presentation decks for lessons and videos.

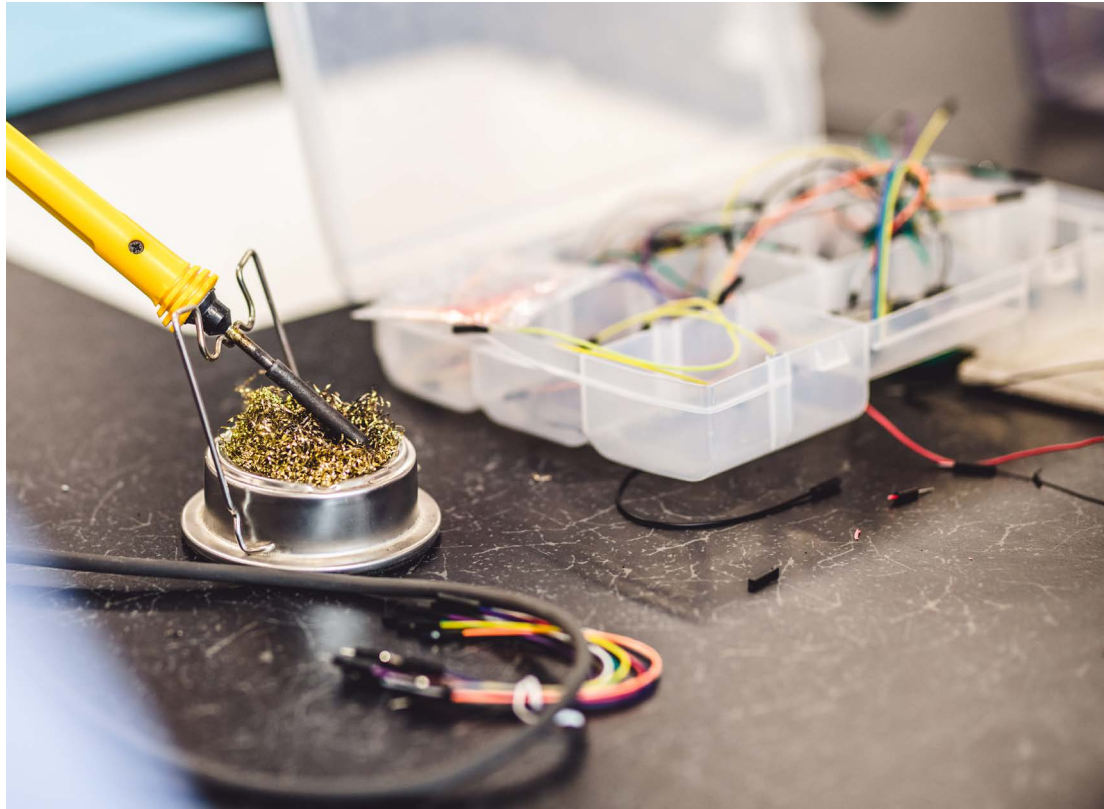


Rethinking Design and Technology – Schemes of work

Design and Technology (D&T) is the subject in the UK education system that most correlates to engineering careers. The James Dyson Foundation believes that a D&T curriculum based on iterative design and problem-led, project-based learning is more relevant and engaging to students.

As a result, students enjoy D&T more and their perception of engineering improves – so more students opt to study D&T at GCSE and A Level. And, in time, more young people choose to become engineers.





The James Dyson Foundation tested its hypothesis with five schools in Bath, UK, from 2012 to 2018 by working to improve their provision of D&T with industry-standard equipment and schemes of work designed to challenge students to solve real world problems. As a result of the project:

44% more students chose to study D&T at GCSE

Nearly double stated they enjoyed D&T lessons more

Two and half times more students were interested in pursuing an engineering career.

Due to the success of this project we have made the lesson plans and schemes of work free to download from the Foundation's website. You can find out more about the Bath Schools project in a report available on our website.



We have representatives in North America and Asia Pacific who work to inspire the next generation of engineers in these regions through workshops, educational resources and the James Dyson Award.

Americas (US, Canada, Mexico)

The Foundation reached over 200,000 students through hands-on engineering workshops and our resource downloads in the US, giving them a glimpse into the exciting world of engineering.

As part of this 25,000 students were reached through the launch of our updated air pollution resource in US, Canada and Mexico.

A total of \$300,000 was raised and donated to charities local to the Dyson offices in Chicago and Toronto to provide students with engineering and science enrichment opportunities along with medical and science research advancements.

The Foundation donated \$500,000 worth of Dyson machines to charitable organisations funding engineering education or medical scientific research.

The Foundation also launched a new digital curriculum guide for professors, written by Dr. Elizabeth Hassan from McMaster University, Canada, to help implement the James Dyson Award in university courses.

In total, we reached nearly 340 Dyson people across the Americas engaging them with the Foundation's educational programs and fundraising initiatives supporting local communities around Dyson offices. This includes participating in two Americas Day of Service where Dyson people volunteered at six local charities across US, Canada and Mexico, Jr Engineer Day for Dyson people's children, volunteering at school workshops and other Foundation-led initiatives.



Students using the updated air pollution monitoring devices in school in Chicago



Child completing one of the Foundation's Challenge Cards at a workshop

Asia Pacific

Through over 380 engagements across Asia Pacific (China, Japan, Malaysia, Singapore, South Korea, Thailand and the Philippines), the Foundation reached nearly 2.5 million students from primary to tertiary levels. These engagements included teachers-training programmes, prototyping and Challenge Card workshops, industry engagements, mentorships.

The Foundation expanded its outreach to teachers and collaborated with the Ministry of Education in Singapore and Malaysia, and organised large-scale STEM campaigns encouraging educators and students alike to be inspired about engineering.

Selected participants of these campaigns had the opportunity to attend Dyson engineers-led prototyping workshop held at Dyson's global headquarters in Singapore.

The Foundation continued supporting its charity partners in Singapore, Malaysia and the Philippines – National Neuroscience Institute, Teach for Malaysia and ChildHope Philippines respectively. In 2024, Dyson people raised over £30,000 for these charities in support of their works in advancing medical research and increasing the quality of education.



Teachers-training workshop for 200 educators from Johor district, Malaysia



Prototyping workshop for primary school students in collaboration with Ministry of Education, in Singapore

A platform for great minds with great ideas

The James Dyson Award is the James Dyson Foundation's international design competition. It celebrates, encourages and inspires the next generation of design engineers. It's open to current and recent design and engineering students.

Since 2005 the competition has awarded over £1 million in prize money, with £30,000 going to the global winners every year.

In 2024, the James Dyson Award ran in 29 countries and regions, receiving nearly 2000 entries.

Athena

Medical winner



Athena is an affordable and portable device for chemotherapy patients that uses scalp cooling to prevent hair-loss invented by Olivia Humphreys from the University of Limerick, Ireland.

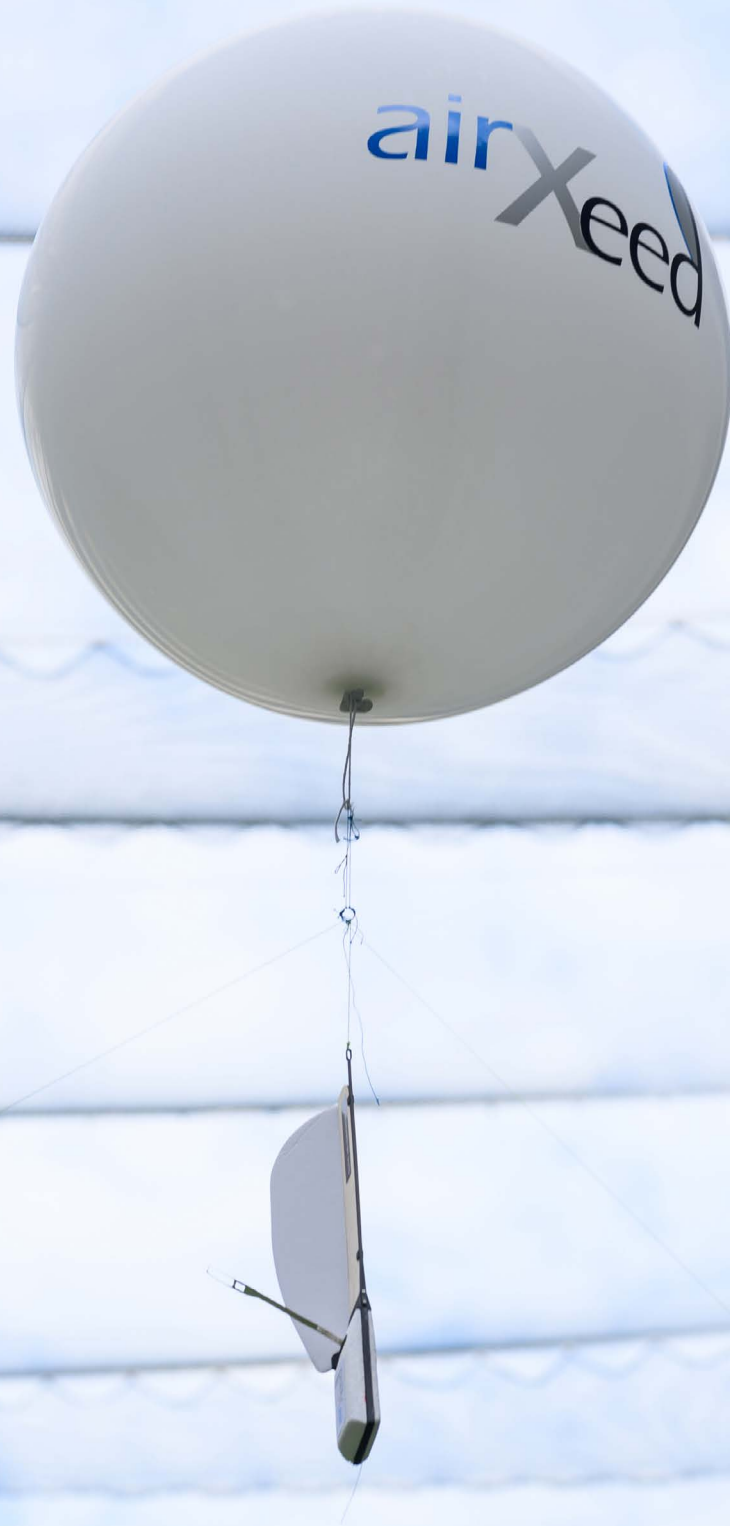
"I'm incredibly proud of the hard work, ambition, and commitment that went into creating Athena. The recognition from the James Dyson Award validates not just my efforts, but also the stories and insights shared by people who've experienced cancer treatment. My mum inspired this journey, and it's incredibly emotional and rewarding to have my project reach this level. The Award has motivated me to recognise my potential, and it opens up exciting opportunities for me as a young designer and innovator."

The problem
Some 65-99% of patients going through chemotherapy will be affected by chemo-induced hair loss. Current hair-loss prevention techniques commonly use scalp cooling, a method which involves applying ice cold temperatures to the scalp before, during, and after chemotherapy limiting blood flow to the scalp, which can be very painful for patients. The availability of scalp cooling is limited due to its high costs and requires someone to be in hospital to receive the treatment.

The solution
Athena is a portable, thermoelectric hair-loss prevention device that uses scalp cooling. It's more cost effective and timesaving than current hospital models, without compromising on the quality.



AirXeed Radiosonde Sustainability winner



airXeed Radiosonde is a reusable, nature-inspired sensor for weather forecasting invented by Shane Kyi Hla Win and Danial Sufiyan Bin Shaiful from Singapore University of Technology and Design.

“Winning the James Dyson Award sustainability prize is a huge step forward for us. It shows that our design has potential and gives us a platform to showcase how airXeed Radiosonde can positively improve the weather industry.”

The problem

Every day, weather stations worldwide launch devices via weather balloons that gather critical atmospheric data for accurate weather forecasting. However, current devices are single-use and contribute to tonnes of plastic and e-waste globally.

The solution

airXeed Radiosonde is a reusable, nature-inspired sensor for weather forecasting. Unlike current weather balloons, it does not create tonnes of plastic and electronics waste, and intelligently descends like a maple seed to avoid aircraft collisions and land in designated collection zones.





The competition gathered global interest from the press, with coverage in major media outlets such as BBC Radio 4, Irish Examiner, ELLE DÉCOR and 8TV Mandarin News. In total, we saw more than 1,000 pieces of coverage reaching over 1.5 billion people – a powerful way to expand the positive message of engineering.

Past winner success stories

Winning the James Dyson Award can help propel past winner's ideas. Over 70% of International winners are commercialising their invention.

Dan Watson, inventor of SafetyNet Technologies, was the James Dyson Award 2012 International winner. SafetyNet is a light that fits onto fishing gear to combat unwanted fish and marine creatures trapped in commercial fishing nets. Casting the net wider, he's founded his company SafetyNet Technologies, delivering pioneering technology and support to build a better, sustainable fishing industry.

"SafetyNet is global now, we work all over the world. We're starting to lead in the fishing industry."

Dan Watson, Co-Founder and CEO of SafetyNet Technologies



The brightest minds and best ideas don't always have the support they need to flourish. And studying engineering is an expensive venture where students need access to materials and equipment.

We provide funding to engineering students and institutions to make the path to a future in engineering easier.

Dyson Scholarships

In 2024, the James Dyson Foundation awarded Ruyi, Yiling and Alex, from Murray Edwards College at the University of Cambridge, with a £2,500 Mary Dyson Scholarship. These scholarships, named after James' mother who studied at the college, provide financial support to female engineering students.

We also provide scholarships to support of PhD students at Corpus Christi College at the University of Cambridge who are researching Agri-Robotics – the Alec Dyson Scholarship, in honour of Alec Dyson who studied at the college. The scholars are researching how robotics can advance agricultural practices and secure the future of food. Currently, this scholarship supports six PhD students.

Awarded scholars



Ruyi is in her second year of studying Engineering at Murray Edwards College, with an interest in Biomedical Engineering and Artificial Intelligence (AI). Ruyi supports with running Cambridge's AI and Entrepreneurship Society, providing opportunities for herself and likeminded students to connect with industry professionals and gain more experience. She plans to use the Mary Dyson Scholarship to support with an internship abroad which will provide her with more experience in understanding electrical chip research.



Yiling is in her second year of studies at Murray Edwards College, with an interest in Mechanical and Electrical Engineering. Yiling's experience working on projects such as the Mars Lander and within robotic design has also led to an interest in integrating electronics and mechanics to create intelligent systems that improve the efficiency and quality of life. She plans to use the Mary Dyson Scholarship to support with extracurricular activities, such as purchasing materials and equipment for prototyping and robotics competitions.



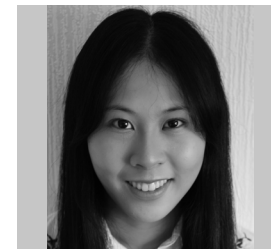
Alex is currently in their second year of studies at Murray Edwards College, with an interest in Fluid Dynamics and Aero/Hydrodynamics. Alex plans to use the Mary Dyson Scholarship for personal projects, including building and testing small scale wind tunnels and to support with attending more Astronomy Society events to understand this field.



Starting her research in 2024, Catherine aims to create a lightweight robotic arm equipped with a soft gripper tailored for vertical farming, utilising pre-existing rail systems to improve efficiency, precision, and sustainability in crop farming.



Starting his research in 2024, Dimitrios is investigating a biosensor enabled sensor node to assist in the non-destructive monitoring of a grafted plant, resulting in higher success rates for plant propagation and higher yields.



Having commenced her PhD in 2020, Haihui is researching robotic soft fruit harvesting and how you can use machine learning to teach a robot to only pick the perfect berries without damaging the fruit.



Having started his research in 2020, Jack is researching the digitalisation of environmental and crop-specific data to identify crops at different stages of growth, to allow farmers to obtain the highest yield and greatest quality produce.



Starting his research in 2022, Garry is researching the application of robotics to identify links between supply chain design and nutrition losses with the aim to create a nutrition management tool.



Starting his research in 2023, Jack is investigating how to stabilise and maximise the production of genetically modified algae and bacteria for food production.

Building inspiring spaces

The James Dyson Foundation has made a number of major donations to universities, resulting in new engineering departments and teaching spaces. These partnerships with academic institutions allow us to impact engineering education for even more young people.

Royal College of Art

The Foundation donated £5m to the Royal College of Art to fund the Dyson Building at Battersea. Opened in 2012, the building is home to printmaking, photography departments, studio space, a lecture theatre and over 70 business incubators for young designers and engineers.



Imperial College London

In 2014, a £12 million donation was made by the Foundation to Imperial College London to open the Dyson School of Design Engineering. This helped to purchase and transform the old Post Office building on Exhibition Road into a fitting home for the new design-focused engineering department. It has state-of-the-art design studios, research labs and collaborative working spaces.

Since 2015, the Dyson School at Imperial has offered a four-year master's degree in Design Engineering.

The school has 47 staff and nearly 600 students, and has a 43% female cohort (compared with a national average of 18% according to Engineering UK–A Levels to Engineering report 2023).



University of Cambridge

The James Dyson Building at the University of Cambridge opened for use by PhD research students in May 2016, following a £6 million donation from the James Dyson Foundation. Now used by over 1000 postgraduate engineers, there have been some exciting discoveries and world-leading research conducted in the new space.

The Foundation also gave £2 million to set up the Dyson Centre for Engineering Design – a prototyping lab that's open to all undergraduate engineering students at the university.

The Centre is a space in which students have the freedom to turn their ideas into physical prototypes as well as apply the theory learnt in lectures into practical projects. It also hosts clubs, societies and James Dyson Undergraduate Bursary projects. This practical space helps to equip students with the skills they need to kick start their engineering careers.



Providing space for Science, Technology, Engineering, Arts and Mathematics (STEAM)

The James Dyson Foundation believes that young people are best equipped for a career in engineering through a cross-disciplinary, hands-on approach to learning in school.

Malmesbury C of E Primary School

In March 2023, the Foundation pledged £6m to Malmesbury C of E Primary School in the UK to drive the school's expansion plans and fund a new STEAM centre to educate engineers and scientists of the future. The STEAM centre will encourage the arts and sciences to be taught side-by-side so pupils can see how the knowledge gained in one discipline can be used in a creative way in another, and provide a space for open-ended, hands-on learning. The project received approval from the Secretary of State for education in February 2024 with planning determination due in mid-2025.



Gresham's School

James Dyson donated £18.75 million to Gresham's School in Holt, Norfolk, where he studied as a pupil, to build a new centre for Science, Technology, Engineering, Arts and Mathematics (STEAM) education. The Dyson STEAM Building opened for student learning in 2021.

The building is located at the heart of Gresham's Senior School. It is the first of its kind in the UK and will encourage new approaches to teaching STEAM subjects in a collaborative, hands-on approach.

The teaching spaces contain the latest technology to increase the breadth of STEAM learning at the school – from robotics and programming, to Artificial Intelligence (AI) and machine learning, all with the objective of encouraging the uptake of engineering and science subjects.

The building also provides an opportunity for Gresham's to build its school outreach programme – hosting over 1000 students from 25 local schools in 2023 as part of a STEAM outreach programme which utilised the James Dyson Foundation Challenge Cards.



Holt Hall, Gresham's School

In November 2023, the James Dyson Foundation announced a new £35 million donation to Gresham's School in Norfolk, UK. It will create a state-of-the-art Prep School with a brand-new building incorporating STEAM facilities for pupils aged seven to thirteen.

James Dyson boarded at Gresham's from the age of nine, attending the school from 1956 to 1965. He has always acknowledged his deep gratitude to the school and its then Headmaster, the late Logie Bruce-Lockhart. The school gave James's family support so that he and his brother could continue their education for free at Gresham's after the untimely death of their father, Alec Dyson, aged 43, who taught Classics there.

The £35 million donation will enable a much-needed restoration of the adjoining Holt Hall and the surrounding 85 acres of grounds which are in an Area of Outstanding Natural Beauty, increasing the area of the school grounds by a third.



Beyond inspiring the next generation of engineers, the James Dyson Foundation supports medical research and charities local to Dyson.

The Malmesbury community

The James Dyson Foundation offers financial and educational support to local projects, schools and charities in Malmesbury, where Dyson's offices are based in the UK. In total, we donated almost £40,000 to the local community in 2024. This includes funding engineering equipment for local schools, donations to local youth organisations, Malmesbury Foodbank, hospitals, and events such as Malmesbury Carnival and Malmesbury in Bloom.

Global charities

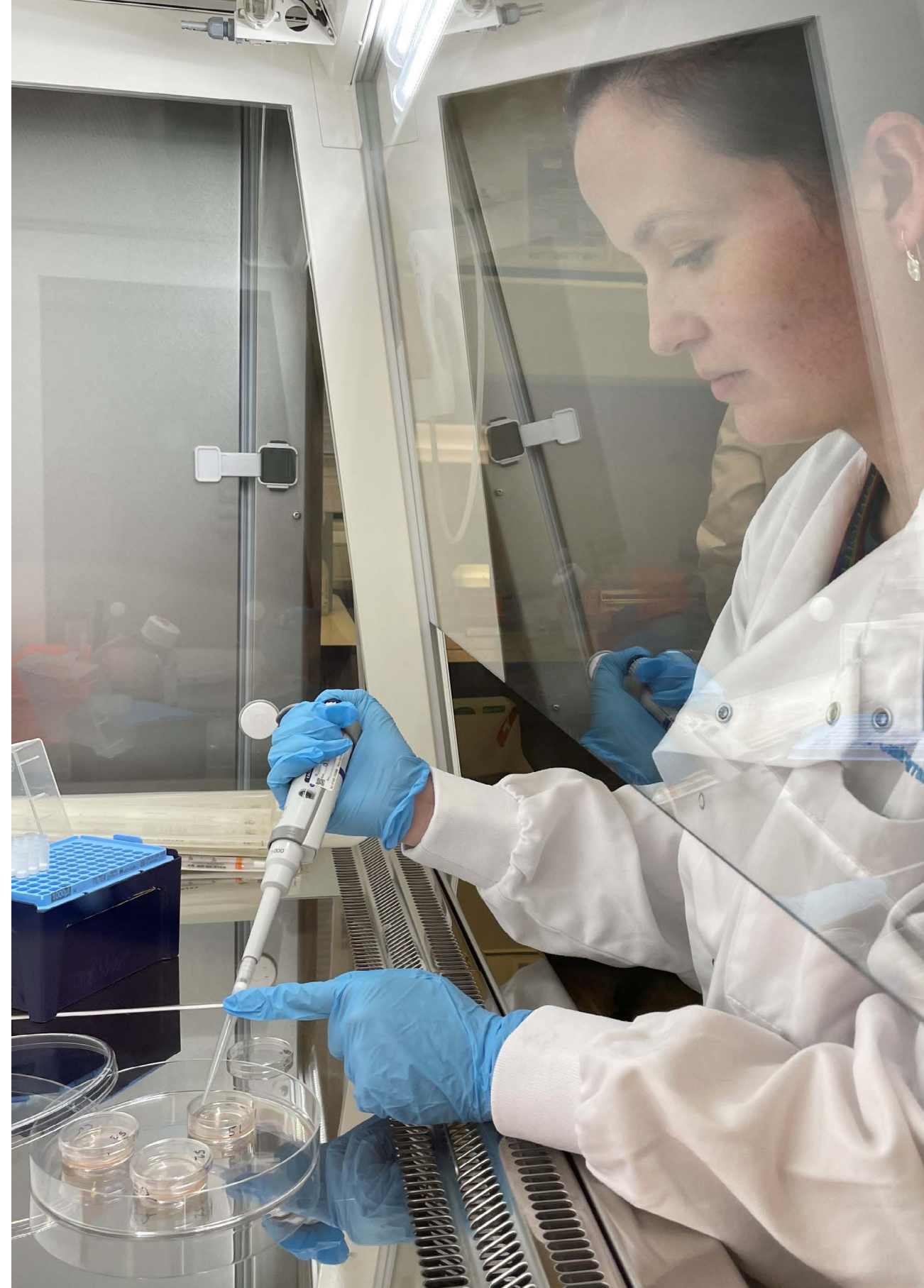
Globally we donated £500,000 worth of Dyson machines to charitable causes. We also supported Dyson's chosen charities through our match-funding programme. In 2024, we helped raise over £200,000 for a number of charities including Alzheimer's Research UK, Lurie's Children's Hospital (Chicago), SickKids (Canada), Educando (Mexico), SingHealth Fund (Singapore), Teach for Malaysia and Childhope Philippines Foundation.

Race Against Dementia Fellowship

The James Dyson Foundation has committed funding to the charity Race Against Dementia to fund a research fellowship into Alzheimer's disease. Dr Claire Durrant, is investigating the role of Tau, a protein in the brain, in keeping the connections between brain cells healthy, and how these change in Alzheimer's disease. As part of the support she will receive mentoring from Dyson engineers and other industrial partners, such as Formula One, with the aim to facilitate more rapid progress in Alzheimer's research.

In 2022 we committed a further £1 million donation to accelerate Dr Durrant's pioneering research investigating the effect of drugs and other factors on dementia using waste human brain tissue samples obtained, with the permission of the patient, from brain tumour operations.

This further funding will allow Dr Durrant to hire support staff and advanced equipment to increase her access to human brain tissue samples and maximise her analysis of these samples over a three year period.



The Royal United Hospital, Bath

The Dyson Cancer Centre opened for patients in 2024 at the NHS Royal United Hospitals (RUH) in Bath. The three-storey Centre provides cancer services and treatment to more than half a million people in the Southwest of the England. The Centre has been designed to enhance natural lighting to create a therapeutic and welcoming environment. The Centre also contains more than 100 pieces of artwork by local artists, themed on nature, including a painting by Lady Deirdre Dyson titled 'Bulrushes'. The Centre was funded in part by a £4 million donation from the Foundation. The Centre was officially opened by Her Majesty Queen Camilla in September 2024.

We have a long-standing relationship with RUH following the success of the Dyson Neonatal Centre, which opened in 2011. This was supported by a donation of £750,000 from the Foundation. The building uses considered architectural design proven to improve the wellbeing of babies and staff.





In 2025 we will continue its work to inspire the next generation of engineers through innovative educational resources, hands-on engineering workshops and the James Dyson Award.

Work will continue to build spaces that encourage a cross-disciplinary approach to STEAM education at Gresham's School and Malmesbury Primary School.

We will also continue to support medical research charities and communities local to Dyson's offices.



You can find out more about
James Dyson Foundation online at
jamesdysonfoundation.co.uk

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