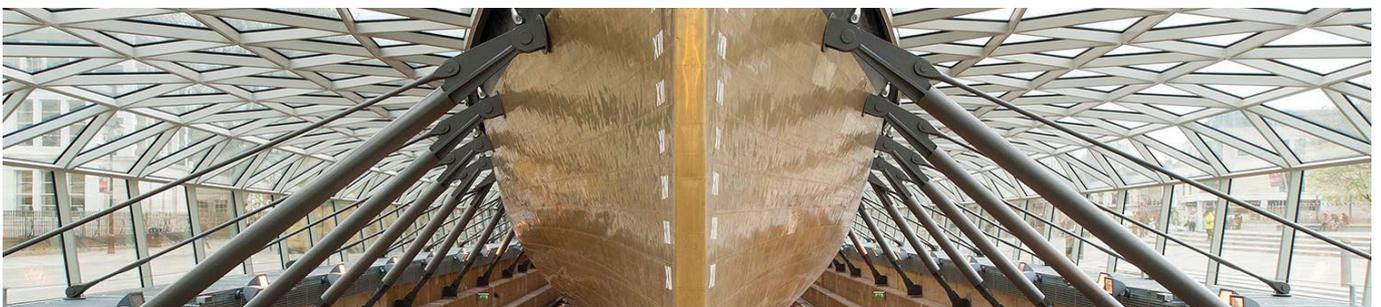


The Happold Foundation



Our impact in 2016

What we do

The Happold Foundation is a charity dedicated to using engineering skills and experience to make a positive impact on people’s lives. We work with students, educators, engineers and researchers to shape a community that wants to improve the performance of the built environment.

Engineering Futures

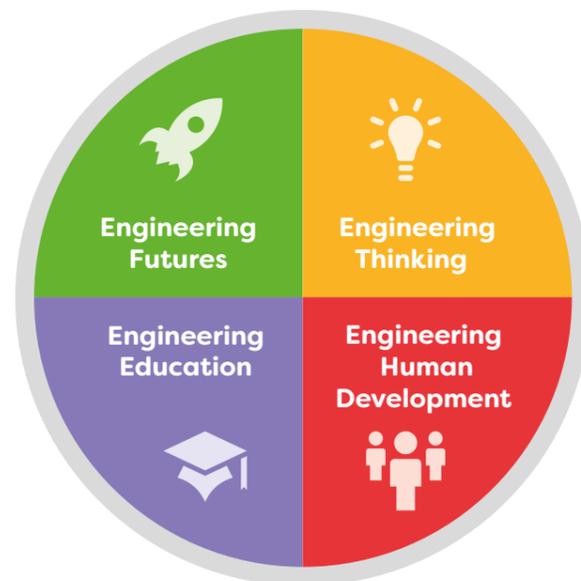
Introducing young people to the build environment

- > Schools outreach and challenges
- > Work experience, mentorship and scholarships
- > Higher education engineering experiences

Engineering Education

Supporting the next generation of engineers

- > Happold Student Scholarship
- > Recognising teaching excellence
- > Visiting professor programme



Engineering Thinking

Bringing our industry and society together to instigate change

- > Research grants and scholarships
- > Workshops and Design Sprints
- > Travel Scholarships
- > Lectures
- > Debates

Engineering for Human Development

Making engineering accessible to communities in need

- > Grants and funding
- > Development and Training
- > Pathways

Welcome



Thank you for taking the time to read our impact report for the last twelve months, which happily coincides with our 21st birthday year!

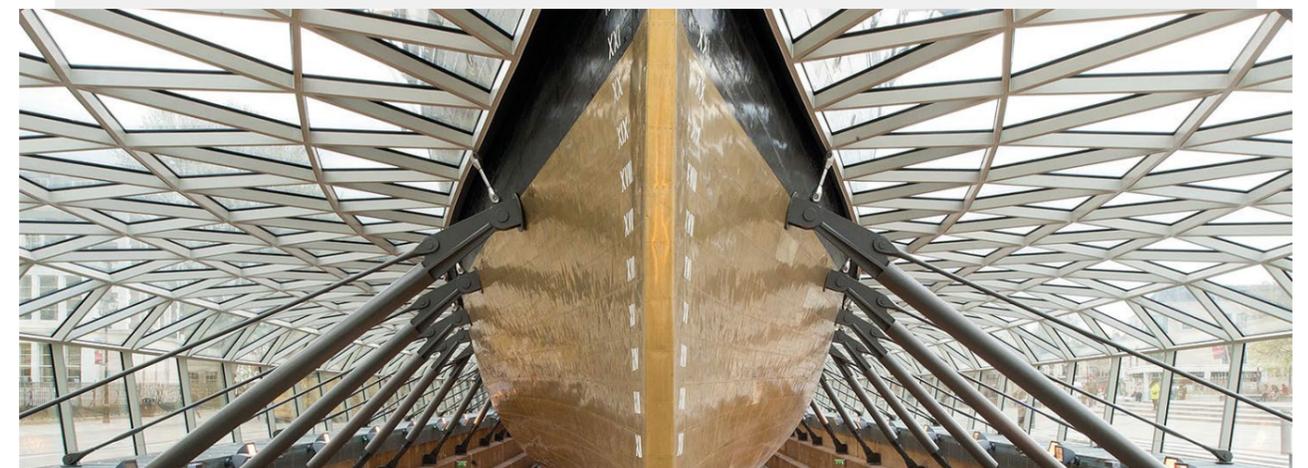
Hopefully, whilst looking over these pages, you will see that The Happold Foundation is demonstrating a reach beyond its scale; we think it’s also equally pleasing to be able to show the depth we are gaining in our four focus areas. Our focus on stimulating curiosity, providing support and helping to drive positive change in areas where engineering can really help society has been growing further.

For 2016 we wanted to join more of our initiatives together, to find ways of engaging minds of all ages in engineering challenges and solutions. We take part in activities from exploring the impact of automated vehicles on the environment you live in, exploring refugee solutions that not only deal with the basic needs of shelter but also of social integration, to enabling research that will help communities rebuild for greater resilience. You will find many examples of real impact across all of our activities both here and in our new website www.happoldfoundation.org

We remain restless in our aspirations and want to leverage more from our resources. We have been very pleased with the interest and support we have had from our scholarship alumni and friends of the Foundation and with their support I am sure we can achieve even more in 2017.

We would be delighted to hear from you if you would like to get involved.

Gavin Thompson, Happold Foundation Chair



Our impact: Engineering Futures



At The Happold Foundation, we are committed to inspiring creative, talented young people to follow a career in engineering. We partner with organisations who work with schools and colleges to introduce engineering principles while enhancing learning in science, technology, engineering and maths (STEM). By working hand in hand with teachers, we help students take those first steps towards carving their own future in the built environment.

Working with teachers, students, engineering firms and our charitable partners across the globe, some of the things we achieved in 2016 include:

- Supporting **Class of Your Own** initiatives in secondary schools in the UK
- Developing and launching our online **Engineer Your Future** tool, an interactive STEM resources guide for students, pupils and educators
- Awarding **Arkwright Scholarships** and internships to five outstanding sixth form students
- Running successful **STEM workshops** in Riyadh and Dubai
- **STEM outreach programme** in the UK
- Piloting our first primary school **STEM outreach programme** at Whitehall Primary in London
- Supporting the **Headstart programme**

Our work supports pupils from primary school age right up to sixth form, providing resources for teaching training, hands on education scholarship and facilitating experiential placements.

“ Forming part of a Happold Foundation funded project, we are working to deliver the Design Engineer Construct! Class of Your Own (COYO) Level Three learning programme to pupils at St Ambrose Barlow Roman Catholic High School. Our role is to help the students discover what it means to be an engineer, and to inspire them to follow a career in the built environment.

St Ambrose aspires to promote the creativity and curiosity of students, broadening their horizons and developing the ‘change makers’ of the future. Through applying this creativity and curiosity to a real world project in Manchester, No. 2 St Peters Square, the students are engaging with future challenges and the role of the built environment in overcoming these.

Students at St Ambrose are among the highest achievers nationally within DEC!, and the school will be one of the first nationally to complete DEC! Level Three. Through initiatives such as COYO, we ensure that our contribution does not start or stop at the site boundary, and that we embed our teams as true citizens of their cities.

Fergus Anderson,
COYO project Manchester Community Academy



Our impact: Engineering Education

Engineering Education



As part of our mission to inspire young people to become the next generation of engineers, we support and invest in university students studying engineering related degrees.

Over the last year, we have provided support and guidance to a number of students, teachers and universities across the globe. Some of the things we did in 2016 include:

- > Awarding 39 **Happold Student Scholarships** across the UK, Central Europe and North America
- > Working with **university engineering societies** to promote our scholarships, design sprints and funding opportunities
- > Running an **Urban Design Challenge** competition for university students in Riyadh
- > Providing funding for our **Visiting Professor Scheme**, which has seen a new insight into sustainable building design at the University of Sheffield
- > Presenting **Ulster University** with the **Happold Brilliant Award**

We work with academics to bring studies in engineering to life, providing programmes and tools to help students gain hands on experience of a career in the built environment.

“ I have learnt so much in such a short space of time, which is down to the people and project I’ve been working on. It was great to have such a range of expertise, knowledge and experience in the team that I could access, providing me with a brilliant opportunity to learn and make the most of my placement.”

Adam Venner, Happold Student Scholar

“ This experience was surprisingly different to what was expected. I believe the Infrastructure sector is not fully explained in university and therefore unknown to many students. However, I discovered a field in which there are so many interesting areas. This placement has opened my eyes and has allowed me to discover the kind of engineer I want to be. I realised I fit in better in projects at city scale and have thoroughly enjoyed the work I did. The placement has also been an opportunity to develop transversal competencies such as oral communication, teamwork, negotiation skills and many others which we don’t explore when studying.”

Ines Garayalde, Happold Student Scholar



Happold Brilliant Awards 2016



Our impact: Engineering for Human Development

Engineering
Human Development



The Happold Foundation is supporting Engineers Without Borders (EWB) to develop the Fellowship model, a scheme that enables organisations and communities to develop their engineering capacities to address global challenge. Three 12-month projects in Kenya, Mexico and Malaysia Borneo will focus on piloting a new way of integrating effective collaboration between overseas partners, EWB volunteers and members in the UK.

The EWB team aim to improve the quality and sharing of knowledge across the global engineering community. Activities have included joining the World Water Week Youth Professionals work stream to promote how young people can impact global water issues, and facilitating meetings between partners and Fellowship volunteers.

“The grant has enabled us to carve out regular time to facilitate conversations with our partners...this has been invaluable in terms of reflecting on the value of the Fellowship model, and also in us better understanding the impact of our work.”

Anya Boyd, Engineers Without Borders

From access to utilities to housing and schooling, the role of good engineering is critical for improving lives. During 2016 we continued with our aim to further human development, supporting engineers and organisations to get involved in high quality projects that will make a difference to the lives of some of the most disadvantaged communities.

We awarded three **Grants for Good Ideas** (GFGI) to projects that strived to aid the development of people and places, supported two **Pathways into Professional Development** initiatives to train engineers to lead projects for humanitarian organisations and provided three **Small Grants** to help engineers travel and attend site visits in developing countries. The people and projects supported in 2016 include:

- > Research into mortar reinforcement for the rebuilding of homes following the earthquakes in Nepal (GFGI)
- > Piloting a new approach to integrating international impact with UK learning (GFGI)
- > Devising a process to facilitate the contextualisation of Sphere Standards for Urban Crises (GFGI)
- > Support Engineers Without Borders in providing training for engineers to gain skills to take leadership roles in projects in the developing world (Pathways)
- > Sponsored Matthew Duckett's 8 month secondment in Zambia as resident engineer working with a team to build a centre for excellence in Lusaka (Pathways)
- > Building a bridge with Bridges to Prosperity to connect isolated communities in Rwanda (Small Grant)
- > Working with WaterAid to run a workshop on how to create clean toilet facilities in Madagascar (Small Grant)
- > Completing a two storey dormitory at Lake Bunyonyi School (Small Grant)



EWB Energy Fellowship Team in Borneo



Built It International project in Zambia



Our impact: Engineering Thinking

Engineering Thinking



Dr Emily Shuckburgh

We believe that we need to provide engineers with a platform to explore solutions to some of the biggest issues facing the world. We want to reach the widest possible audience, encouraging engineers to change the path of the built environment.

Some of our activities in 2016 included:

- > Hosting The **Happold Lecture**, our annual lecture that focuses on how the engineering community can influence key global issues
- > Running our **Conversations** series, featuring topical debates by key people in the industry, in both the UK and Middle East
- > Launching our **Global Sprint** programme, which provides resources for different organisations across the globe to run a workshop on future technology in the built environment
- > Holding four **workshops** in North America focusing on health and wellness
- > Developing and running a **workshop** in Berlin to find design solutions for the refugee crises
- > Awarded **two travel scholarships** to enable research focused travel
- > Continued our sponsorship of the **Construction Integration initiative**, which seeks to define a series of definitive recommendations for design teams

Focussing on urbanisation, scarcity of resource and climate change, we work with others in the engineering community to raise awareness amongst those who can instigate change.

The Happold Lecture is a free annual event that brings together students, designers, academics, clients, institutions, managers, innovators, entrepreneurs and policy makers to promote action.

Focusing on climate change, the 2016 Happold Lecture at the IET London brought together a panel of industry experts to debate how the engineering community can seek to confidently engage, not only by providing solutions to climate related problems but also by influencing planning and decision making around mitigation and adaptation. The key speaker was Dr. Emily Shuckburgh, Head of Open Oceans Research Group for the British Antarctic Survey.

Dr. Shuckburgh's research is focused on gaining a better understanding of the dynamics of the atmosphere and oceans to improve predictions of future climate change. She discussed the evidence based scientific story behind climate change, long-term projections, implications at a local level, how this has influenced Paris COP 21 and how climate change policy will need to change. She also shared some of her personal experiences of the Antarctic.

The lecture was followed by a panel debate to explore whether COP21 went far enough, how the UK Climate Change Act may need to change and how the engineering community can respond. The Happold Lecture is a key example of how, by bringing together members of our community to debate and share knowledge, we can promote change, create influence and challenge ideas.

You can view the 2016 lecture at www.happoldfoundation.org/blog/climate-change-seen-proved/



Travel Scholarship supported project to build a bridge in Rwanda



Our community

Our work in 2016 would not have been possible without our community, who have volunteered their time and skills to support The Happold Foundation. We partner closely with like-minded people to further the impact that our industry makes and to increase the capacity of engineers to improve the built environment.

Over the last year, we have worked alongside our alumni, industry partners and other charitable organisations to introduce to schools, enrich education in universities, support research to better human development and deliver thought leadership events.

Your contribution

Going forward, we want to continue to build a community of people who share our commitment to improve the things that make a difference. You could be a Happold scholar we have previously supported, or an industry expert who believes in the same values we do. You might be a charity similar to ours, or a graduate wanting to inspire other young people. Our community is diverse, and we want as many like-minded people as possible to offer a small amount of their time to partner with us and help us make a positive change.

To find out how we could work together, visit www.happoldfoundation.org for more information or email info@happoldfoundation.org.
www.happoldfoundation.org/our-community



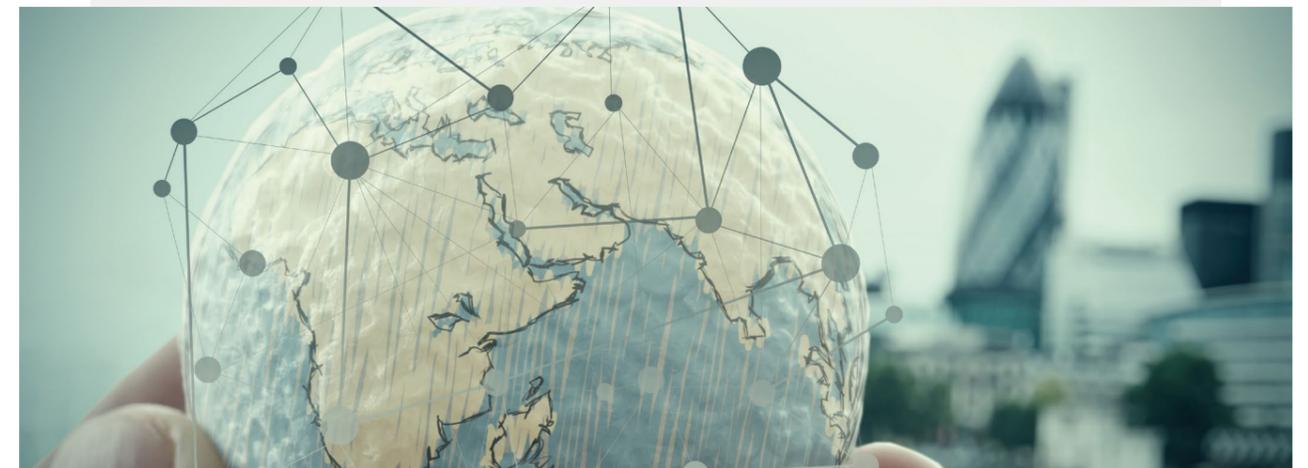
Looking forward

Looking forward to 2017, The Happold Foundation will further develop our activities in the areas we work in, focusing on supporting projects and programmes that specifically achieve the charity's aims.

Some of the activities we will be delivering include:

- ▶ Running our **Conversation** debates in London, the Middle East, USA and India
- ▶ Holding a number of events to engage with our alumni and wider **community**
- ▶ Continuing to develop our **Pathways** initiative, a programme that will make more engineers accessible to disadvantaged communities by providing professional training
- ▶ Establishing a **Happold Student Scholarship** programme for students in India
- ▶ Facilitating a second series of our **Global Design Sprint**, which provides resources for organisations to run their own workshops then share the results
- ▶ Hosting our **Happold Lecture** in New York, which will explore the physical and social consequences of climate change in the US
- ▶ Introducing our **Class of Your Own** programme to students at Leith Academy, Edinburgh

We carefully allocate our resources across our four focus areas - Futures, Education, Thinking and Human Development - to ensure we offer funding and support to initiatives that will really make a difference.



Our Trustees



Fergus Anderson

"We are shaping a built environment which young people will inherit - rather than design for them, we should design with them."



Emily McDonald

"We see it as our responsibility to open the eyes of young people to the exciting world of construction and design, to encourage the best people from the broadest and most diverse range of backgrounds to join us."



Anna Bruni

"We have an obligation to take the lead in solving the world's numerous challenges. We need like-minded people to join us in promoting engineering's contribution and responsibility to global society."



Lorraine Milne - Secretary

"We are inspiring and challenging people of all generations to think how they can create a better place to live."



Michael Cook

"We should teach people to be fascinated by the world so they are inspired and return that curiosity and joy to their surroundings."



Sean Mulligan

"Engineers design and create the environments in which we spend the majority of our lives - it is our responsibility to inspire those that will create the future."



Andrew Daubney

"It is an honour to be a small part of The Happold Foundation's drive for a better world."



Tom Newby

"Although being a Happold Scholar didn't change my mind about the type of engineer I wanted to be, it made me a much better one, and gave me invaluable knowledge of how to design buildings that work."



Michael Dickson - CBE

"The work the charity does in furthering the value of engineering to the public, and its support to young engineers throughout the world, is vital to the built environment."



Robert Okpala

"I believe in the ability of our young people to make a difference in the development of our Cities, through sharing knowledge, innovation, collaboration and technology."



Matthew Happold

"A world which sees art and engineering as divided is not seeing the world as a whole" as said by Professor Sir Edmund (Ted) Happold



Sarah Sachs

"As a trustee, I believe our foundation has a responsibility to utilize our collective experience and knowledge to influence the next generation of engineers, planners and designers who will be shaping our future built environment."



Ian Liddell - CBE

"The training and development of competent and imaginative engineers is essential for making our country and the world the place we wish to live in. The Happold Foundation is able to help them find opportunities and guidance."



Gavin Thompson

"We seek to stimulate the engineering community to get out there and educate and influence society."

Our Mission

At The Happold Foundation, we know the huge contribution that engineering can have on all corners of society. So, we are creating a community of talented people who will help to shape the future for everybody.

From helping schools to introduce engineering to pupils to creating life-changing spaces for under privileged communities, we provide support and inspiration. We help students in the sector take the next step in their education, and we help engineers work in the most challenging environments. We are a source of know-how, encouragement and funding for those who are excited about engineering and want to be part of the next big steps in the industry.

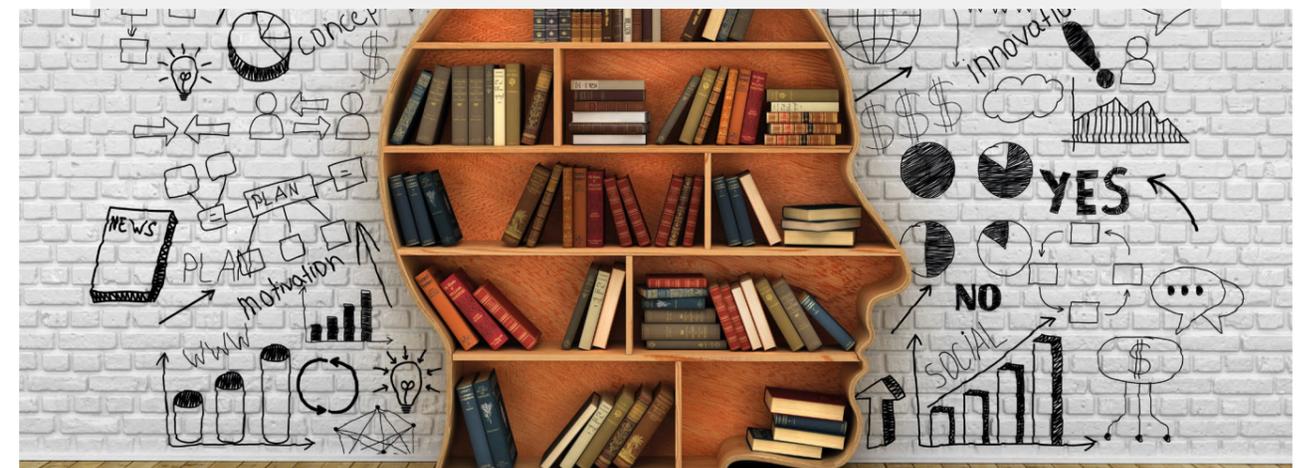
Understanding how engineering can make a difference, we talk about the key issues that affect us today and will affect us even more greatly tomorrow. At The Happold Foundation, we work with the people who care about the same things we do, coming together to improve the built environment for all.

Our History

Our story began in 1995 when the late Ted Happold, along with the other founding partners of BuroHappold Engineering, decided to start a charity that would enable engineering to support the needs of our global society. The partners saw The Happold Foundation as a charity that would go further in shaping a community dedicated to improving the built environment.

The Happold Foundation is a registered charity with an independent Board of Trustees from a number of different organisations. Originally funded from shares transferred by Ted Happold, the charity continues to be supported by donation from the current partners of BuroHappold.

www.happoldfoundation.org/about-us





**ENGINEERING
FUTURES**



**ENGINEERING
EDUCATION**



**ENGINEERING
THINKING**



**ENGINEERING FOR
HUMAN DEVELOPMENT**

The Happold Foundation

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