

The Happold Foundation



Our impact in 2017

What we do

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

We plan initiatives, allocate resources and contribute knowledge across four focus areas:



Our work in **Human Development** seeks to connect disadvantaged people with skilled engineers to improve their communities. We fund projects and people who are committed to working in challenging locations to improve living conditions.



Our **Futures** focus introduces pupils age 6-18 to Engineering, Maths, Science and Technology. We engage with partners and alumni to work with teachers and schools to design exciting, hands on education programmes that will inspire children.



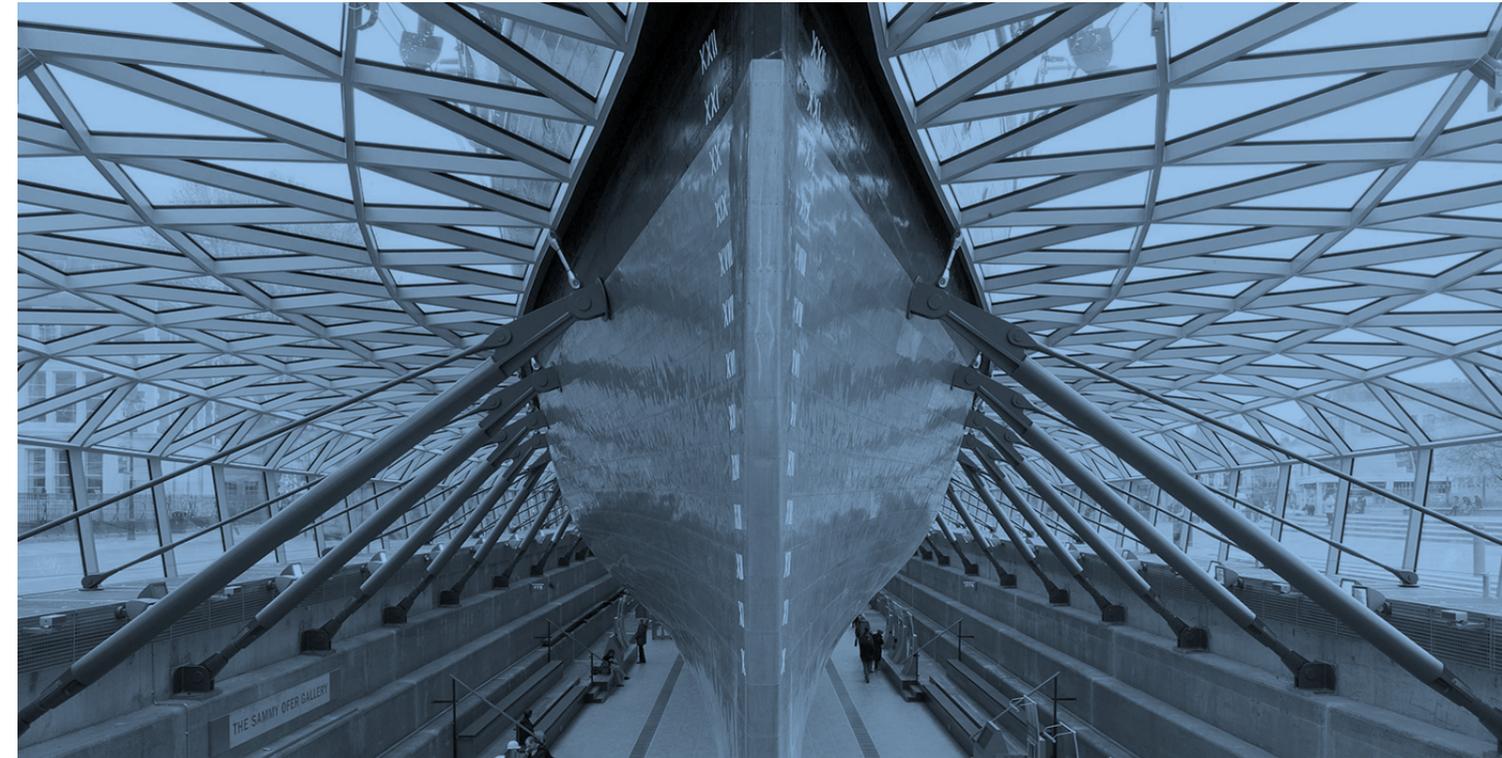
Our **Education** work helps undergraduate students who want to pursue a career in engineering through funding scholarships and arranging work experience opportunities. We also celebrate academic teaching excellence through our awards programme.



Our **Thinking** offer brings together the most talented people in our industry to suggest solutions for some of the world's most challenging issues. We support research, provide travel scholarships and facilitate events, workshops and lectures to unite a community of engineers, designers, builders, owners and users.

We work to promote the work our alumni undertakes to improve our world and build stronger communities.

www.happoldfoundation.org/about-us



Welcome from Gavin



This report offers an opportunity to reflect on what we have achieved and our shared goals for the future.

The past year has seen our four focus hubs continue their good work whilst we have also seen geographical expansion of our programmes into India and the addition of new partners in our futures work. We have also started to get serious about engaging our broader alumni in developing ideas and supporting initiatives to further our goals.

In many respects it is this latter area that promises a step change in our effectiveness. Our alumni, those people and organisations who have received support from the Foundation now number over 500. Whilst our financial support is largely unconditional, it is satisfying to see our alumni showing an interest and engaging in our broader agenda. If you would like to know more about how you can help the Foundation please contact Anna Bruni.

This year has also seen the launch of our effectiveness programme, geared toward gathering data on the performance of the programmes we support such that we can share feedback. This will guide our decision making on projects.

We have also welcomed four new trustees into our team - Paul Rogers ex-officio representing BuroHappold Partnership, Fergus Anderson, Steve Williamson and Celia Way, who will lead our work in Engineering Futures, Engineering Thinking and Engineering for Human Development respectively. We also said goodbye to Eve Happold, Mike Cook and Emily MacDonald, all long serving trustees who have done much to define and shape the Foundation's activities and culture.





Making engineering accessible to communities in need

Engineering for Human Development

Enabling communities who are most at need to access good engineering is vitally important. We are committed to funding programmes that maximise the effectiveness of engineers to work on projects that further human development. We support high quality initiatives that will have a long-term, positive impact on disadvantaged people from across the globe.

With a focus on providing high quality engineering that will improve the development of people and places, we want our work to be measurable, so that we can understand the full impact we have on the projects we support. This allows us to further refine our grants and programmes so that they can make the biggest difference possible. So, in the last 12 months, we have been focusing on developing our Grants for Good Ideas programme to allow us to do this. We will be continuing to work on this over the course of 2018.

In 2017, our Grants for Good Ideas provided funding for projects including:

- Supporting Abundant Water to train Lao villagers to sell, and install low cost water filters, giving thousands of people access to safe water and much needed income to the village.
- Contributing funding for the Centre For Global Equality's World Engineering Index, which measures the effectiveness and capacity of engineering in different countries
- Awarding a grant to Engineers Without Borders to enable them to develop the Global Engineering Fellowship programme
- Providing funding for the development of a Forced Migration Review, which looks at the different shelter needs of people who have been displaced from their homes
- Supporting the development of the Humanitarian Bamboo Guidelines, a tool for organisations building shelters in the humanitarian sector
- Awarding a grant to the Rural Education Development (RED) Project Borneo, a student-led initiative that runs skills based education programmes for marginalised Bornean communities.

Providing a sustainable water supply in Laos

Our Grants for Good Ideas provided funding to help train a vital new member of staff as part of Abundant Water's initiative in Laos.

Working with partner charity ACTD, Abundant Water is installing affordable, sustainable water filters in rural communities in Laos. The project provided over 1,750 people with clean, safe water during the first three months of the project, with over 289 filters installed in homes. A key part of their work is to show local people how the filters work, and also to train them to install and then sell the low cost filters, creating both clean water and employment opportunities.

Supported by the Happold Foundation, Abundant Water has been able to train Sou Chang, a Hmong employee, as a Project Manager. With his native language skills, Sou is able to share his knowledge of the water filters with the community. This means that the Hmong people are now able to learn about the filters in their own language.





Introducing young people to the built environment

Engineering Futures

Our focus is to contribute to programmes that inspire children to explore STEM subjects, planning activities that will introduce engineering principles and a career in the built environment. The schemes we support work closely with schools to put in place education programmes teachers can run independently, enabling schools to confidently teach students about engineering well into the future.

While the scope of the funding we provide includes students from all backgrounds, we are committed to providing education to children from disadvantaged areas who might not otherwise be able to access the resources they need to learn about engineering. We partner with engineering firms and other charitable organisations to offer workshops, scholarships, and work experience placements.

The projects we worked with in 2017 included:

- › Supporting **eight** Arkwright scholars with funding and work experience opportunities
- › Funding **three** students in North America with an ACE Mentor Scholarship
- › Running engineering workshops at Whitehall Primary School
- › Providing funding for the Design Tech Truck project
- › Working with Smallpeice on the launch of a new Think Kit educational pack for secondary schools
- › Bringing the Design Engineer Construct! Class of Your Own programme to **three** schools

Whitehall Primary education project

Helping pupils to understand how engineering interacts with the world they live in is a key focus of the Happold Foundation's work. Aimed at year five and six pupils, this pilot education programme at Whitehall Primary School in London has now been running for over two years and has gone from strength to strength. This is an excellent way the Happold Foundation Alumni can engage with schools local to them.

Run by Happold Foundation mentors, the programme is designed to use ordinary items found in the classroom to teach engineering principles. The programme is divided into six sessions - design and nature, foundations and roots, designing a house, bridges, sustainability, and a final project that brings together all of the learning from over the year.

Working closely with the pupils and teachers at Whitehall Primary, the engineers have been able to improve supporting materials so that teachers can comfortably run the sessions in the future.



Whitehall Primary education project



2017's Arkwright Scholars





Bringing our industry together to instigate change

Engineering Thinking

The engineering community has the knowledge and expertise to make a significant impact on some of the world's most challenging issues. We contribute by providing opportunities for members of the industry to come together to share knowledge, explore solutions and encourage debate.

Focusing on issues such as urbanisation, scarcity of resource and climate change, we give engineers at all stages of their careers a platform to raise awareness and instigate change. We provide funding and support for lectures, workshops and design sprints that we feel will add real value to furthering the impact of engineering in the built environment and will offer invaluable insight from experts across our sector.

Some of our activities in 2017 included:

- › Hosting the Happold Lecture, our annual lecture that focuses on how the engineering community can influence key global issues
- › Running our Conversation series, which features debates with key people in the industry
- › Running Global Design Sprint events at the Institute of Civil Engineers and BuroHappold's London offices, bringing together engineers from different backgrounds to workshop practical design solutions
- › Supporting The Green Program's scholarship initiative, which helps students to undertake short term education programmes

Happold Lecture 2017

Designed to bring together members of our industry to focus on vital global issues, our annual Happold Lecture is a key part of our Thinking focus area.

2017 saw the lecture held in New York City for the first time. The lecture explored the significant changes in migration patterns as a result of climate change. Following a number of natural disasters in the US, there has been a need to resettle communities, particularly along coastlines, who have had their homes devastated.

Harriet Tregoning, former Principal Deputy Assistant Secretary for the Office of Community Planning and Development at the HUD, gave the keynote speech on the physical and social consequences of rising sea levels across the country. This followed a panel discussion and Q&A discussion that explored how to protect cities and communities from the impact of climate change, from a policy, human and design perspective.

The Lecture reconciled theory and practical approaches to promoting the important part our industry can play in delivering crucial solutions.





Supporting the next generation of engineers

Engineering Education

A significant part of our work is to partner with organisations that inspire young people to follow a career in the built environment, and to provide support to enable them to become the next generation of engineers.

Our Engineering Education focus area aims to provide grants and work experience opportunities to students who show dedication and academic excellence in the sector. In 2017 we were able to help a total of 49 students across three continents with our Happold Scholarships. Following on from their scholarships with us, our past scholars are regularly given the opportunity to engage with our activities, from taking part in design sprints to offering their time on school outreach programmes.

We also work with academics to help enhance their engineering degree programmes, adding value to the students' learning and offering true to life experiences for students.

Some of the programmes we worked on in 2017 included:

- › Bringing our scholarship programme to India and awarding four students with financial support and work experience opportunities
- › 45 Scholarships were awarded this year - 32 in the UK, two in Central Europe, four in The Middle East, five in North America and four in India.
- › Presenting our Happold Brilliant prize - a £1000 award that recognises excellence in teaching to MidKent College
- › Continuing to support the RAE Visiting Professor Scheme by funding Prof Andrew Jackson in his visiting professor role at Sheffield University.

“ *The internship was a great learning experience for me and really helped me to develop my personal and professional skills. It helped me to understand how this industry works and how a particular project goes through different stages.*

Vivek Turkar, 2017 Happold Scholar, India

“ *The Water team at BuroHappold's Bath office really went out of their way to enable me to visit various sites that the water team had been working on. It was great to see how construction sites operate and how the office work becomes a reality. The placement was varied, I got to see a wide range of the projects and the different challenges faced by different projects. I really liked working on projects based abroad (including Al Habala, Abu Dhabi Island and Guragon) as they have a completely different climate and pose challenges that I hadn't thought of before as I have only considered UK projects. I really got to 'dip my toes' into a massive variety of projects which I loved.*

Hannah Little, 2017 Happold Scholar, UK



Hannah Little on site



Alumni workshops

Our alumni and partners

A key part of what makes us able to carry out our work is the involvement we have from people in the engineering community, who share their time and knowledge to add value to the programmes that we run or support. 2017 saw us really focus on engaging with our alumni and wider community of industry partners, with a number of events and collaborations taking place to strengthen how we work together. By working together effectively, we can make a bigger impact.

There are opportunities across all four of our focus areas – education, futures, human development and thinking - to contribute to the Happold Foundation's work and that of our partners. We hope that by working with us, our alumni and partners have an opportunity to give back to the sector and get involved with activities that they may not have the chance to in their normal working environment.



Some of the activities our alumni and partners got involved with in the last year include:

- › Alumni workshops to shape the content of our design sprints
- › Global Design Sprints at the ICE and BuroHappold's London office
- › Launching our e-newsletter, to strengthen our relationship with our community and publicise opportunities to work alongside us
- › Working with the Happold Foundation as Trustees, helping to allocate our grants and scholarships, and running our initiatives
- › Supporting Design, Engineer, Construct! to run their Class of Your Own Programme across a number of UK schools

Getting involved

Over the next year we hope to partner with more people from our industry to help us run our programmes and communicate the Happold Foundation's work to a wider audience. We want to work with a diverse range of passionate, like-minded people from different organisations and backgrounds.

So, whether you have received support from us, you're from a charity organisation similar to ours, or you're an industry professional looking for another way to make a difference to the built environment, we want to hear from you.

Global Design Sprints

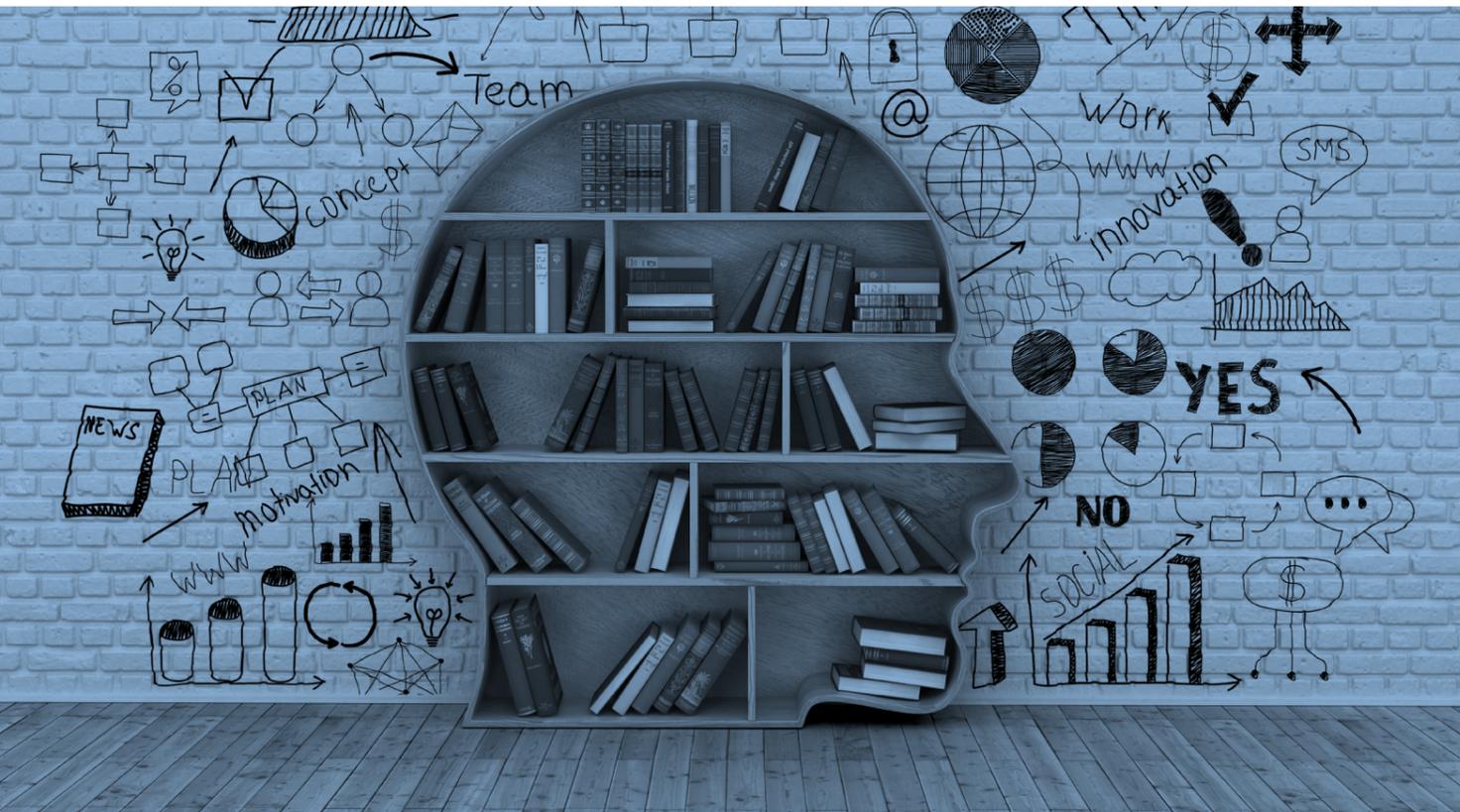
The Happold Foundation funded two Global Design sprints, one at the ICE's head offices in November 2017, and another at BuroHappold's London offices in early 2018. Designed and run by members of our alumni, the sprints bring together built environment professionals at all stages of their career to explore how our industry can participate in tackling the challenges that the international development and humanitarian sectors are facing.

Global Design Sprints are four-hour, quick-fire workshops where participants look at a specific set of issues and work on solutions that could be more efficient and effective. Alumni, partners and other industry experts worked in small multidisciplinary teams to pull together ideas and concepts that can be implemented by engineers working on international development and humanitarian projects. The two events demonstrate how vital the involvement of our alumni and partners is in furthering the contribution of engineers.

If you would like to run a Global Design Sprint within your own organisation, or would like to be involved in future events supported by the Happold Foundation, email alumni@happoldfoundation.org to find out more.

www.happoldfoundation.org/our-community

The Happold Foundation



Our Trustees

Our Trustees provide essential support, knowledge and guidance to enable us to run our initiatives and continue to develop new programmes. Their hard work and commitment allows us to continue furthering the impact that engineering has on our world.

Our Trustees come from a number of different specialisms and backgrounds. The diversity of our people helps us to provide a well-balanced approach to our work, ensuring our projects are of the highest quality and make the most significant impact.

To find out more about who our Trustees are, visit www.happoldfoundation.org/about-us



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 support engineers to better 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.

Looking forward

Looking forward to the next year, 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:

- Helping our partner organisations Enabling Enterprise and Your Green Future find mentors for STEM activities for young people
- Working with our alumni ambassadors to bring more events and workshops to people in our industry
- Supporting more organisations in running projects that will benefit the most disadvantaged communities
- Providing university students from several countries with the tools they need to start their own journey in the built environment

Most importantly, we will carefully consider where our resources should be allocated to ensure the highest impact possible. We will work to develop new and existing collaborations to deliver programmes and funding that will enable engineers to make a positive and lasting contribution to the built environment.

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**Engineering for
Human Development**



**Engineering
Futures**



**Engineering
Thinking**



**Engineering
Education**

The Happold Foundation

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