

## Where will we find our future engineers and will we recognise them?

**Liz Chapman**, Head of Engineering at MWH says we must make engineering a compelling career choice for a broader audience if we are to address future demands for engineers



It is well-known that there is a skills challenge in the UK, with future demand for engineers outstripping supply. To meet this challenge, we need to attract a

completely new type of engineer. One that is driven to build a better world, combining technical, economic and social skills to get the most from our infrastructure and create a truly sustainable future.

So where will we find these 'future engineers' and how will we induce them to choose a career in Engineering? Well, to twist a common saying, if we keep looking in the same way, in the same places, we shouldn't be too surprised if it results in finding the same type of recruits, in the same type of quantities. I believe we need to lighten our grip on what motivated us to become engineers and turn our minds to how engineering can connect with the values and aspirations of present day potential recruits. We then need to ensure we robustly diversify who we reach with that message.

Perhaps we are unlikely to see the profile of the profession raised through an exciting must watch drama series following the ups and downs of a charismatic career engineer (a little bit maverick in their approach to design calculations, a little bit troubled in their private life...), but we need to recognise the opportunities that are more readily available to us.

Our job, as engineers, is to solve the big problems facing the world – like clean water, sanitation, energy and public health – against a background of diminishing resources and increasing population

and potential recruits increasingly care about these concerns. In MWH we have identified a perceptible change in the answers we get to that interview mainstay of "why do you want to work for us?". Increasingly the responses include reference to wanting to "contribute" "and the importance of "values".

The problem-solving skills that we associate with good engineers are as vital as ever; but to address global challenges, we increasingly need other attributes and talents too; for example, the ability to collaborate and influence, to question traditional ways of doing things, and be open to new ideas. The need for these types of skills will create a greater attraction to engineering for a much broader range of talented people looking for a career which can fulfil their aspirations.

The process should begin in our schools where we need to raise awareness of engineering, and its social and environmental benefits. Then, we need to continue our development of advanced and higher level apprenticeships. This will allow us to run parallel professional recruitment and development paths, blending vocational training with the more traditional graduate recruitment approach. By communicating the outcomes we are looking to achieve, we can build a strong, new talent pipeline and attract young people with creative minds and a thirst for problem solving.

It's not revolutionary or original to observe that the next generation of engineers bring with them an innate ability to use the modern communications tools and technology - they have grown up knowing the internet, using social media and learning gaming skills. As they develop and move into leadership roles

in the industry, they won't see these technologies and ways of interacting as transforming the way engineering projects are conceived, promoted, designed, procured and built, rather they will look at us in amazed incredulity at the suggestion that one would ever attempt it otherwise. Similarly, they are more likely to challenge conventional solutions and are open to collecting good ideas wherever they come from, which is just as well as the world will demand that they communicate and collaborate with social stakeholders beyond the traditional orthodoxy.

This changing perspective of what makes a good engineer is encouraging consultants and contractors to employ young people from more diverse backgrounds.

Within MWH our construction business has a long standing record of recruiting and training apprentices. Whereas, in line with other organisations, our consultancy business has more predominantly focused on graduate recruitment and training. However, last year we launched our consultancy apprentice scheme which attracted recruits aged 17 to 22, with a variety of different, non-traditional qualifications, from GCSEs to HNDs. Most have studied science or maths but also have a broader range of subject interests including law, health and social care. What matters is that they're interested in solutions to problems. And, because there's a lot of design involved, they have skills in visualisation and creativity. This all represents a step change both in engaging a more diverse pool of talent and presenting engineering as a career with much broader opportunities than ever before.

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