

More likely to stand out!

Ailie MacAdam, managing director of **Bechtel's** global rail business spoke to *Rail Professional* about women in rail engineering

Why are there so few female rail engineers? Engineering has traditionally been considered as a male environment and through conversations that I have had with young women, their image of the rail industry in particular is often that of loud construction men working nightshifts in the most inhospitable parts of the UK. The image possibly hasn't helped but I think it's actually been a case of 'too little, too late' in terms of awareness of the type of careers available in the engineering sector. Engineering isn't on the national curriculum and there have never been any major campaigns in the past to widen its appeal. Times are changing though. Ironically, with the predicted shortfall of 35,000 engineers by 2050 in the UK, many employers seem to have woken up to the fact that they need women engineers as much as men. And more importantly, employers are actually recognising that women can bring different skillsets and perspectives to a project and making better teams. So hopefully, we're on the right track now to start addressing the gender imbalance.

What was your own experience coming into the industry?

The majority of people I've worked with



have been men but I've never known anything different, so don't have anything to compare it with. I joined Bechtel as a graduate more than 26 years ago and through the company have been fortunate to have had the opportunity to work on and manage some of the world's largest infrastructure projects, such as High Speed 1, the renovation and extension of St Pancras and most recently Crossrail, as project director of the central section.

How difficult was it to get where you are now?

My current role heading up Bechtel's global rail business is a really exciting challenge - at a time when Bechtel's rail projects include Crossrail, the largest engineering project in Europe and lines 1 and 2 of the Riyadh Metro, which is one of the largest projects in Bechtel's history. The opportunities are there if you want them and the work is immensely challenging. Of course I've had to work hard to get where I am now but I think that's the same in any industry and I don't think I've been treated any differently to any of the men here.

What is Bechtel doing to help increase the number of female engineers?

Bechtel actively promotes diversity and we're committed to fostering a diverse and inclusive environment where people of all backgrounds have the opportunity to advance and thrive. In the UK, 14 per cent of our engineers are women, which is more than twice the current national industry average of six per cent. And on the Vauxhall Underground station upgrade project, 35 per cent of the engineers (Bechtel and TfL combined) are female.

We can't be complacent though. So we're constantly working to improve the number of women in our organisation and in 2013 launched our Women@Bechtel employee resource group. Women@Bechtel chapters, made up of both male and female employees, provide a collaborative forum to promote an inclusive environment in the workplace, to share perspectives and experiences, and learn about tools for success. The group has seen unprecedented growth with more than 700 members and 10 new chapters around the world, including one in the UK. Bechtel is also rolling out new training for leaders about unconscious

bias to drive objective decision-making in all aspects of talent management and to help ensure an inclusive environment.

Earlier this year, we signed up to the Women into Technology and Engineering Compact, launched by BIS, No.10 and the Department of Energy & Climate Change's *Your Life* charter which includes specific new commitments from employers, government, schools and universities. The purpose is to increase the number of women in engineering and number of girls taking maths and physics at 'A' level. Bechtel committed to holding 24 STEM outreach events at UK schools and universities per year, five Women@Bechtel events in the UK each year, and to working with our partners, suppliers and customers to help improve gender diversity.

Bechtel also takes STEM very seriously and many employees are STEM ambassadors, including myself. Following one school workshop that Bechtel took part in, we saw the number of students at the school choosing engineering courses increase five-fold compared with the previous year. I'd like to think that we had something to do with that. As part of our global stewardship programme we also work with organisations like First Lego League, which encourage children and students to get involved in science, technology and engineering.

How important are female role-models?

Anyone who saw the recent BBC documentary about Crossrail, titled *Fifteen billion pound railway*, couldn't fail to be impressed by the efforts of the female engineers such as Linda Miller (from Bechtel) who was shown project managing the restructuring of the Connaught Tunnel under the Thames to extremely tight deadlines. The response on Twitter and other social media with positive comments about the women on the programme was phenomenal. Seeing women achieve can only inspire other women. Role models are incredibly important and that's why the 24 STEM outreach events we'll be holding in the UK in the coming year will all feature female role models. I will be a part of that and am also very much involved in our Women@Bechtel chapters as I'm keen to do my bit too. I've had an amazing career in the rail industry and want to help create an environment where

other women can also have that kind of satisfying career.

This June saw the first National Women in Engineering Day – has it made any difference?

I'd like to think that yes, it has made a difference. The industry really pulled together to raise awareness and stimulate a real conversation about what needs to be done to increase the number of female engineers. I hope it will now become an annual event.

What personal experiences have you had that show that cultures and mindsets are changing?

I've certainly been having more conversations now than in the last ten years, with women asking about maternity leave affecting their career choices *etc.* This is no longer the taboo subject it used to be. Employers are also being more flexible with working hours, maternity and paternity leave. I think women are now realizing that it is possible to have a career in engineering and a family. And as I said earlier, engineering companies are recognising that they need women to make diverse teams, which has been proven by research to create better business performance.



Engineers on Bechtel's Vauxhall projects, left to right: Jackie Green, assistant project manager (LUL); Sharon Young, project engineer (LUL); Steph Neath, structural field engineer (Bechtel); Lani Tan, project field engineer (Bechtel); and Caroline Walker, quality engineer (Bechtel)

Will we ever get to a 50-50 per cent figure?

Yes, I think we will. I don't think there's any reason that we shouldn't strive for this and achieve it. Some engineering projects are already setting this as a goal, such as Thames Tideway Tunnel, which wants to achieve this by 2030. Crucial to achieving this will be to continue raising awareness among young girls at school through STEM, working with universities and careers fairs and so on, and having the backing of government, engineering institutions, and of course engineering

companies themselves. I would love to see an industry-wide advertising campaign with female role models to help promote the great careers on offer in our industry.

What advice would you give to women rail engineers?

Rail engineering is a great career for women and I have really enjoyed the projects I've worked on. Being a woman has never hampered me and in fact, if you're any good it's the opposite, you're more likely to stand out!

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