

DATE	15 <sup>th</sup> April 2016
Circulation	114,000



## Women in engineering: What's different about this picture?

PUBLISHED: 04/04/2016

Women in engineering love their jobs. Rail companies love their work. Why is anyone surprised?

### Engineering is great

People with engineering degrees get more jobs - and better-paid jobs - than any other university leavers except medical graduates. They travel, they're respected, and they do a huge variety of challenging work. The prospects are even brighter for rail in the UK, with Crossrail and High Speed Two set to create thousands of career starts.

'We're seeing a rail renaissance in this country,' rail minister Claire Perry said in November 2015.

Perry was speaking at the first Women in Rail conference in London, a sign of how women are set to participate in the rail boom. 'I want to see women at the heart of major infrastructure projects like Crossrail and HS2,' she confirmed.



### But it's mostly men – why?

Though the government is committed to gender fairness, most people working in engineering are still men. New research, revealed at the conference, shows that the number of women working in rail today is the same as it was in August 1914.

Why are we leaving the best jobs for the boys?

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It could be that many people's idea of engineering is men in hi-vis jackets, drinking builder's tea, before picking up heavy things and getting muddy.

Maybe no one wants to be the first to break into the boys' club: girls aged 11-13 said in a survey that they see engineering as 'embarrassing' and 'socially isolating'. In comparison, the chances to make a real contribution – with science or design skills, or as a problem solver or a team leader – get less attention.

Sarah Shaw, communications director of WISE (Women In Science and Engineering), has summed up the problem:

"If you go into a school and ask children 'what does a vet do?' or 'what does a doctor do?', they can tell you. But if you ask them what an engineer does, they're stumped."

It could also be our cultural influences. Boys can identify with Thomas the Tank Engine, but there's no animated series about the hundreds of women who built London's Waterloo Bridge. The 2012 Olympics opening ceremony featured Sir Kenneth Branagh, bellowing benevolently as rail pioneer Isambard Kingdom Brunel – but no one dressed up as 19<sup>th</sup> century scientist Ada Lovelace, even though her computing inventions made the whole ceremony possible.

## Women in engineering are really happy

Whatever the reasons, they don't matter to women actually working in engineering: in a recent survey, 84% said they are 'happy' or 'extremely happy' with their career choice. A resounding 98% say engineering is a rewarding career for women.

Mostly, it seems that girls aren't told what's out there. 'There are jobs in engineering I had no idea existed, even during my engineering master's degree,' one woman admitted. Of women working in engineering, two in five had someone in their family who was an engineer – meaning they were exposed to the reality of the job growing up, and had fewer misconceptions about it.

## Employers want more women in engineering

In fact, 17% of women in engineering say their gender has actually helped them. 'Employers are keen to get parity with male staff,' one female engineer said, and another joked that her gender helped her career by making her more memorable at conferences. This 'shock value' is likely to go down as more women get into the industry, but it's reassuring that most employers are actively seeking more women employees.

The government's pledge to invest in infrastructure is creating long-term projects with attractive employment prospects – the industry body Engineering UK talks about doubling the number of sector graduates. Engineering looks more valued and varied, and much less volatile, than other prestige sectors such as finance.

The industry's structured, consistent approach to training and progression will appeal to many. Transport Engineering postgraduate Sophie Abington is a route engineer on the HS2 railway, where she is looking forward to qualifying as a Chartered Civil Engineer: "It's an internationally recognised benchmark and provides opportunities for networking with colleagues across the industry and around the world."

## Initiatives for women in rail

If you're just setting out in the industry, there is plenty of training and support. Women in Rail's networking group is looking for any 'dedicated and enthusiastic' women to join its mentoring scheme. At the conference reception, people spoke enthusiastically about their good experiences of training – several women started at entry-level or temp jobs and are now thriving. In a world of zero-hours contracts and precarious employment, the rail industry stands out for training its workers from the ground up.