

Helen Cavill CEng MIMechE

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Education and qualifications: MEng Manufacturing Engineering (University of Cambridge)

Which Institution are you a member of? Member of the Institution of Mechanical Engineers (IMechE) the Women’s Engineering Society (WES)

Current job title: Process Improvement Manager

Company: RPC M&H Plastics Beccles (plastic packaging manufacturer for personal care and healthcare markets)

Length in current job: Seven years

Approximately how many staff are employed by your company?
700

Please describe your current role

As Process Improvement Manager my role involves resolving complex technical issues, often spanning several production departments (a challenge I describe as being an “engineering detective”). I also work on research and development of new manufacturing processes and operational systems. There is no typical day. Often things start with a call to go to production because there is a problem with one of the plastic bottles. I gather samples and information, then research materials and processes, analyse the data and come up with a theory of what is causing the problem. I carry out trials to prove my theory and implement changes to fix the problem. I really enjoy working with everyone, from shop floor to international supplier contacts, and my favourite part is having one of my theories proven to be correct and solve a problem that was a complete mystery to start with. This usually involves conducting random experiments, like taking bottles hot off the moulding machine and running to stick them outside in the snow for a couple of hours to check how it impacts shrinkage.

Please provide a brief outline of your career so far

My engineering career started in 2002 with a Year in Industry placement at an iron foundry making automotive castings in my hometown of Lincoln. I worked in the Environment, Health and Safety Department, which gave me a brilliant overview of industry and was definitely a case of jumping in at the deep end. I then started my degree at Cambridge in 2005. By that time aged 21, I applied to study at a mature college (Wolfson) and benefitted from the outlook and experience of going to university a little bit older. I was proud to secure an Undergraduate Scholarship with IMechE and undertook engineering work placements each summer, before graduating in 2009 and starting my role at M&H Plastics.

CASE STUDY



Have you worked on any unusual or high profile projects?

The world of plastic bottle moulding is not particularly glamorous, but I still get irrationally excited every time I see a bottle on a supermarket shelf that I know I worked on. A lot of engineering goes into the production of such everyday items. One highlight was an item of food packaging that I developed a process for and spent most of one summer running trials in production to achieve exactly what the customer wanted. A month later I could go into a supermarket and buy (and eat!) this dessert knowing that I had processed and checked that exact item of packaging during my pilot production run.

Has being a female engineer ever had an impact on your career?

Being a female engineer can definitely be an advantage. Being unusual (women making up less than a tenth of the engineering workforce), people tend to remember me even when we only meet briefly. The biggest advantage is my emotional intelligence, a trait that from my experience is more prominent in women. I can understand and predict how people will react and often diffuse tense situations better than my colleagues. In a role where I am resolving production problems every day, these people skills are vital.

CASE STUDY**How do you think more women could be encouraged to become engineers and technicians?**

I am the only woman in my company's team of technical managers, but we have a few women coming through our apprentice scheme. There should be more women in engineering, but I think the great shame is that there are children of either gender who dismiss the idea of an engineering career because they are given false stereotypes and poor information. If every child was exposed to what engineering is really like by the age of 11 or 12, ideally through practical activity and positive role models, I think it would spur many more children to embark on this exciting career path and improve gender imbalance in the profession.

What spurred you to work towards becoming registered as a CEng?

Initially I headed towards CEng because it was the next logical qualification. However, after a couple of years of working in industry and fully understanding the competencies required for CEng, I realised that striving towards professional registration would make me a better all-round engineer as I developed leadership and communication skills, and found ways to demonstrate my commitment to the profession.

How did you become registered as a CEng?

My company did not have a Monitored Professional Development Scheme (MPDS), but I adapted my monthly workload report to highlight activities that demonstrated the competencies laid out in [UK-SPEC](#). My line manager was supportive and allocated me projects that would help broaden my experience as I worked towards professional registration. After about four years in my job, I attended an IMechE membership surgery and the local Business Development Manager helped me understand how I met the criteria. As a volunteer on a few IMechE committees I was able to find people willing to informally check my application. I had my Professional Review Interview and was thrilled to become Chartered the week before my 30th birthday.

How has professional registration as a CEng benefitted your career?

I am particularly proud to be a Chartered Engineer in the manufacturing industry because it can be difficult for others to understand my role. Being CEng demonstrates my technical competence to the highest level.

It can be useful when meeting new contacts in a group situation, because being a CEng singles me out as the technical expert.

What advice would you give someone considering professional registration as a CEng?

Go for it! If your company does not have anyone experienced with the process, your institution can help find a mentor and advise on the application procedure. Get into the habit of recording your professional development as soon as you graduate and try to map activities against the [UK-SPEC](#) competencies as you go.

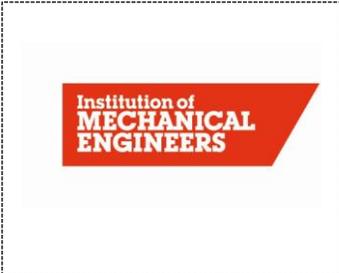
What are your future goals?

I like working with people and managing production trials but would find a purely managerial role very dull. I love being immersed in the technical detail of how things work. I'm looking to expand my knowledge and explore different areas of manufacturing. If I am problem solving and making an impact to the real world, then I'm happy.

How do you feel about being the winner of the WES Prize at the 2015 IET Young Woman Engineer of the Year awards?

Winning the WES Prize is an amazing honour and it's a real credit to the IET how much excitement they generate around these annual awards. I couldn't believe how many people were at the ceremony. I was picked for my work engaging and inspiring young people to follow STEM careers, and this has driven me on further. I really enjoy working with schools and public speaking. It is so rewarding when a few months later I hear about how a student has signed up for an engineering course as a direct result of my interaction.

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