



“As a career, it has allowed me to live in other countries, learn languages and see a lot of the world”

Introduction

The Underfall Yard is a charity dedicated to the restoration and preservation of the historic boatyard; interpreting the history of the yard and the Victorian machinery; and educating people on general engineering principles connected to pressure systems and metal machining. I am a mechanical engineer, responsible for maintaining the 1907 pumps, training volunteers to run the pumps, giving demonstrations to the public and helping to design educational activities.



Image: **Rachael Gollin**, Workshop Manager
– Underfall Yard

How did you get started in your career?

I studied mechanical engineering at Nottingham University. Then I joined a large engineering company, GKN on their graduate training programme and worked all over the world. At the same time, I became a chartered engineer through the Institute of Mechanical Engineers. When I was young, I loved taking things apart to see how they worked (I wasn't always very good at putting them back together). That curiosity has stayed with me all my life.

Can you outline a typical work day?

I usually tour the pumps to check that nothing is leaking too badly, record and monitor bits of the system that need it, fixing problems as they arise and updating the maintenance logs. Then I work on the operational plans – work instructions, volunteer training, enquiries from educational groups, up-coming events and plans for to refurbishing and using the old machines in the workshop.

What do you enjoy most about your job?

Being a charity, we work mainly with volunteers. I love working with people who are there because they want to be there. I find a great peace in cleaning, polishing and re-greasing machines with other people who enjoy it while we discuss the histories of the machines, and what still needs to be done.

When we give demonstrations it is a real joy to see a young person get excited by the machines. The questions they ask are sometimes very funny, but often quite complex. I hope that we are inspiring the engineers of the future.

What skills are important for anyone wishing to start in your profession?

Engineering is a very technical subject, but also very practical. A good understanding of maths and physics are vital, but a degree is not mandatory. If I had my time again, I would do an apprenticeship with a good company.

What main personal attributes do you think is important for your type of job?

Methodical thinking and an ability to break down complex problems into step-by-step actions. A knowledge of specific machinery or processes is less important, but being able to think a system through by first principles is.

Do you have any tips or suggestions on how young people and adults can enter your industry?

Getting summer work in a factory is a good place to start understanding the world of manufacturing. There are also a lot of organisations doing engineering workshops and clubs around the country. Also, take every opportunity to explore – mend bikes, take things apart!

What career progression opportunities are available in your business/sector?

There are huge opportunities in large companies to go into senior management (I became Global Head of Manufacturing Engineering at GKN Aerospace), or become a world renowned expert in a particular field. There is also a lot of support for entrepreneurs to start their own design or manufacturing companies, all you need is a good idea.

Why is it important for your sector to attract and train young people and new entrants?

Engineering and manufacturing is the basis of most economies, but there are not enough young people entering the sector to replace the people who are retiring. As the world population continues to grow, we will need more technology and neat gadgets to thrive, and the people to make them.

What trends do you predict for your industry within the next 10 years? E.g. is it a growing market requiring more young entrants

Mechanical and manufacturing engineering is a growing sector, with a reducing population. As the rate of development continues to increase, this gap will need to be filled.

General words of advice

If you enjoy making things, like working with passionate people and understand numbers then engineering is the job for you! I especially enjoy seeing my work out in the world – when one of “my” cars drives by, or a plane takes off. As a job, it is great to mix working with people and with machines and the effect of solving a problem is immediate. As a career, it has allowed me to live in other countries, learn languages and see a lot of the world.

Further contact/information

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