

Women in Engineering - Newsletter

2022 will be the 7th year of Women in Engineering at the RNLI and we're thrilled to have you on board.

Here you'll find latest STEM and RNLI news to fuel you for this year's event.

"I really enjoyed all of the activities because it shows that girls can do anything that inspires them" Anonymous

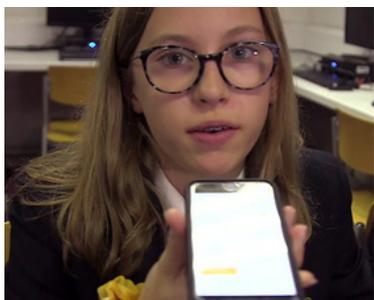


Francesca

Designer in the RNLI
Marine Mechanical
Department

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[Get to know Francesca in the full case study on page 2](#)



Pupils design app to help deaf children in lessons

Schoolchildren have designed an app which transcribes school lessons for people who are deaf or have hearing loss. It was part of a competition run by Amazon Web Services (AWS) to encourage young people to consider careers in technology. As prize winners they will have the Connect Hearo app developed by AWS. It will then be rolled out for use in schools.

[Find out more](#)

Quiz - Meet the future you

Ever wondered what an engineer does? Could you see yourself exploring outer space, protecting the environment, designing apps or developing cures for diseases? Engineers do all this, and more!

[Do the quiz](#)



3D Printing & the RNLI

What's so good about 3D printing? It has the capability to produce highly complex structures which are near impossible to produce with any other manufacturing method. This allows unlimited opportunities for innovation, reduces costs and lead times, and it gives designers complete freedom and offers engineering benefits such as lighter parts and faster development processes.

The RNLI is working with a team of engineers and industry specialists to analyse which areas could benefit from 3D printing. We're looking into producing lifeboat parts with 3D printing, as well as specialised jigs and moulds which could significantly reduce our production times.

[Find out more](#)

Meet the statistics

According to Engineering UK 2021 the following are the latest statistics interpreted from the report by WES (Women's Engineering Society):

- Latest figures as of June 2021 show that 14.5% of engineers are women. An improvement from 12.37% in 2019 and just 11% in 2017.
- Women make up 14.5% of all engineers. This represents a 25.7% increase in women in engineering occupations.
- In 2018, 46.4% of girls 11-14 would consider a career in engineering, compared to 70.3% of boys.



10 Female Engineers Who Changed Our World

In celebration of the past and future of women in engineering, let's get to know 10 famous female engineers who have changed our world. From inventors, computer programmers and second woman in space.

[Read more](#)

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“ My name is Francesca and I'm here to tell you a little bit about what it's like to work within the STEM marine industry and some of the experiences I have had while working.

I am a designer in the Marine Mechanical Department of the RNLI. I started this job in January after completing a 3-year marine engineering apprenticeship with a smaller company.

I was halfway through my A levels and had visited quite a few universities and wasn't sure if it was for me. I first found out about marine engineering apprenticeships at a RNLI open day where I talked to an apprentice who was there to advertise the scheme, I'm now engaged to him! So, when I have a bad day at work, I remind him it's all his fault I'm in the industry!

I initially had difficulty finding a job due to my lack of experience. I decided to do a shadow day at the local marine engineering college, to see if I liked the idea of engineering. My Dad is a Civil engineer, so I had been brought up with CAD drawings on the dining room table and going to work with him on occasions but I now realise it is a very different industry. At the shadow day, I was given the contact details of PME group, whom are now the sole MAN importer for the UK.

I contacted PME and got an interview; I went along not knowing what I was really letting myself in for. I was taken into the workshop to talk to the engineers and I knew then that it was the job for me, the workshop was full of engines, in varying degrees of repair - I just wanted to start work there and then. Thankfully I was offered the job. They took a risk, not only because I didn't have any experience, but I would be the first female engineer they had ever employed.

I finished my college qualifications as the highest in the class, but it wasn't easy. I worked a lot harder than my male counterparts because I felt like I had something to prove, like I had to prove I belonged there. When I started college, there was another female on my course who left after 6 months, because she struggled to fit in. I saw her leaving as an opportunity to really prove I could do it. At work I took every opportunity to better myself, every training course, every difficult job to earn the respect of my colleagues. All things I didn't really need to do, I just had a chip on my shoulder.

I had so many experiences over my 3-year apprenticeship, I commissioned over 100 vessels for both Sunseeker and Princess as well as some commercial vessel. I've stripped, inspected and repaired over 6 complete engine rebuilds, 2 of which as the lead engineer.

When working in the field, I had the challenge of coming up against comments from customers as well as fellow engineers I would meet as I travelled around the country. Initially, this was quite difficult to deal with but once the customers realized I was good at my job, they accepted me and some even requested that I worked on their boats. I built a reputation of making less mess than my fellow engineers - no one wants oil on their cream carpets!

I started my new job in January, I applied on a whim; it's my dream job. I got five years ahead of where I thought I would be. I had none of the paper qualifications required for the job, but I had experience something not all university graduates have. All my various experiences got me the job. You could say that I was quite lucky.

I'm now working in an engineering office which is very different from working on the shop floor, but the skills I have gained still help me now. For example task priority, job organisation and knowing when the job on paper takes 10 minutes, it actually takes an hour! My role now is to come up with solutions to engineering problems, assist the coastal crews with technical enquiries and help to maintain the fleet of lifesaving craft.

A project I am currently working on is looking at extending the service life for an engine within our Severn class lifeboats - the biggest in our fleet. As the (Search and Rescue) SAR application is different from the commercial and leisure industry this means that the service requirements of the engines are a bit different. It's a very interesting project as I have been able to go and see a stripped engine to examine the condition of it and then write a report with the findings and justification for the extension.

There are so many different pathways within STEM and the Marine industry. I have only been in a very small section of it. I have been lucky enough to work alongside other women that have skill sets far more advanced than mine. I work alongside engineers now that have degrees and masters, but we use our experiences in different ways. I know, for example, when an engine is running rough because I can hear it in the tone, whereas they know by the data that is being produced is slightly different than normal. We both know something is wrong just in different ways.

It needs to be recognised that more women are needed in the industry as we are more than capable, the problem being that a lot of the traditional engineers see it as a Man's world, this isn't because they want to degrade women it's just because it's the way it's always been. The only way we can change this is by doing the jobs, challenging expectations and being the absolute best we can be. It's important to note that I'm given the same tasks, I'm expected to work just as hard, I'm expected to be able to answer difficult technical questions, so once you are in there is no gender gap. It's just jumping the gap to get in that can look hard.

My advice; do whatever you want to do. Don't let anyone stand in your way. Try your best it will always be good enough. Don't have a chip on your shoulder about being a woman in a man industry it doesn't help you in the long run and can cause problems with colleagues. Just be yourself don't try to be anyone else.

Becoming a marine engineer was the best decision I ever made.

