

# Catalyst career interview

## Andrew Smyth



**Q Introduce yourself – what is your name, place of work and job title?**

**A** I'm Andrew Smyth, I work at Rolls-Royce in Derby and I am an aerospace research engineer.

**Q What did you want to be when you were young?**

**A** I was always fascinated by flying and how things worked. I wanted to be a commercial pilot so I could fly around the world. I even started doing some flight training and flew solo several times.

**Q What is the main focus of your work?**

**A** When people hear Rolls-Royce, they often think cars. Rolls-Royce cars are made by BMW. In Derby we design jet engines, nuclear reactors and other power systems for the land, sea and air. My work is focused on investigating future aircraft concepts, using a computer to model them and trying to predict what future aircraft will look like.

**Q How does your work affect our everyday life?**

**A** Aircraft are essential to everyday life, be it travelling to see friends and family abroad or sending food and post via freighter flight. We try and make them as efficient as possible to reduce the impact on the environment but they still burn fossil fuels. My work is looking at how we can reduce our reliance on fossil fuels in the future to have a greener, quieter aircraft.

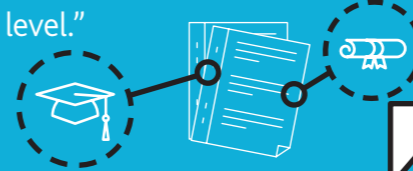
**Q Talk us through an average work day...**

**A** I'll arrive at work at around 9am; our office is 'agile' which means we can sit wherever we like depending on what work we're doing. I'll usually have a couple of reviews with the teams I work in and my manager, then I will run some computer simulations of aircraft concepts before lunch. After lunch I could be working on anything from electric aircraft to marine technology, often visiting universities where they carry out research for us and going to conferences to hear about the latest developments.

**Q What's the best thing about your job?**

**A** I get to work with amazing technology and amazing people. Every day I keep learning and I never lose that excitement of solving problems.

"I studied a masters in engineering to join the graduate scheme at Rolls-Royce, although there are lots of different routes in from GCSE and A level."



**Q When and why did you decide to follow your profession?**

**A** From a very young age, I've been fascinated by how things work. I was the kid in class who would always be asking our teacher more questions. I was obsessed with aircraft and was fairly good at maths and physics which naturally led me to engineering. My plan was to complete my degree then start pilot training but I enjoyed the engineering so much that I decided to pursue it as a career!

**Q What sort of personality or passions do you need to have to pursue your career?**

**A** In my job, the main thing we have in common is being very curious about the world and we love solving problems. Beyond that there are all sorts of personalities that I work with, from those who love presenting to large groups to those who prefer to work more individually. Whatever your style, there is a job in engineering for you.

**Q What qualifications did you need to gain to succeed in your career?**

**A** I studied a masters in engineering to join the graduate scheme at Rolls-Royce, although there are lots of different routes in from GCSE and A level. The key subjects that are common are physics and maths. Things like design and technology and chemistry are useful too.

**Q Are there alternative routes into your profession – such as apprenticeship schemes?**

**A** Absolutely! Now, more than ever, there are several routes to becoming a qualified engineer. At Rolls-Royce we have several apprenticeship schemes where you can do your university course whilst working for the company and get paid to get your degree!

**Q Did you do any work experience in your field? If so, did this help you decide what you wanted to do?**

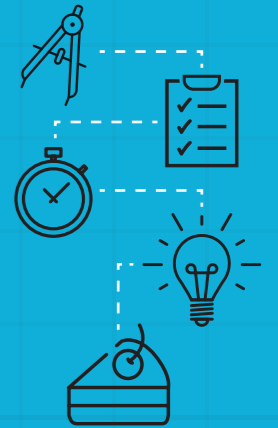
**A** When I was at school, I did some work experience at Belfast City Airport, which was incredibly interesting but didn't really show me what engineering was, it was much more operational. My best advice would be to try and talk to someone who actually works in the job and ask them why they enjoy it, what skills they use and what kind of work it is.

**Q Do you have any career highlights?**

**A** I've been at Rolls-Royce for around four years so it's still relatively early days for me! So far, my proudest moment has been getting to travel to our Power Systems Headquarters in Germany and presenting my work to the Head of Research over there. That was really rewarding (and nerve-wracking). I was very grateful to have the opportunity to do that so early in my career.

**Q You were a finalist in 2016's The Great British Bake Off – how do you think your engineering skills helped during the competition?**

**A** Engineering teaches you a huge variety of transferable skills. I knew I had to bring my strengths into the tent; things like precision, planning, time-keeping and creativity, which really helped me get through to the final against such tough competition.



**Q What did you learn or take away from the competition?**

**A** You never stop learning. Even the professionals (the judges) are constantly updating their understanding and not becoming complacent. I think that's true in life too, you can be confident in your skills but it's important to remain humble about what you don't know.



**Q Are you still baking?**

**A** Of course! I'm baking as much as ever, going to various food and science festivals around the country, as well as regularly appearing as a chef on the Lorraine programme on ITV. I'm trying to develop a television show combining incredible engineering with wacky bakes, so watch this space!



If readers are curious to know more about what goes into a jet engine, download the free Rolls-Royce UltraFan app: [www.stem.org.uk/rolls-royce-ultrafan](http://www.stem.org.uk/rolls-royce-ultrafan)