

ENGITECH CAREERS INSIGHT

Ever-changing Engineering
and Technology roles for an
ever-changing world

The future isn't what it used to be!



Exploring the EngiTech World

The aim of EngiTech Careers Insight is to broaden horizons and aspirations of possible future careers in the Engineering and Technology sectors. In this digital book you will explore Engineering and Technology Careers which were sent in by STEM Ambassadors and STEM professionals across the South East of England.

Engineering is the application of science and math to solve problems. Technology is the application of scientific knowledge for practical purposes, such as the development of machinery and equipment. Both of these sectors contribute in many different ways to our ever-changing future.

DID YOU KNOW?

- UK technology sector employs 2.93m people, with 40% growth in the last two years.
- Tech employs more than a fifth of workforce in UK's biggest cities.
- Graduates entering the IT industry in the UK can expect a higher than average starting salary.
- Engineering jobs make up 19% of the UK's total employment
- 65 million engineering jobs are predicted to be available by 2024
- Women make up 14.5% of all engineers



Emma

Inspecting Officer in Airworthiness

WHAT DID YOU WANT TO BE AT AGE 15?

When I was in school I really liked maths and physics, but I didn't really know what job I wanted.

WHAT IS YOUR CAREER NOW?

I review incidents that have happened in industry to identify trends and safety related events to help ensure aviation stays safe. I am soon moving to the Design and Certification team, where I will be involved with new aircraft and modifications to existing ones.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Problem-solving and engineering are important to do my role. With new technology being developed for use in aviation it is important to try and keep up to date with advances in engineering.

FUN FACT ABOUT YOUR JOB

I once worked in an Observatory and Planetarium, which helped grow my interest in space exploration and the technologies that enable it. I would love to become involved in Space engineering activities in the future!

BEST BIT OF JOB

I have the opportunity to work with people from different cultures and with different types of experiences, and it is interesting to learn from them.

WHAT JOB CHALLENGES DO YOU FACE?

I went to an all-girls school and there weren't many pupils who pursued engineering careers before me, so I researched opportunities myself. I now want to make young people aware of the options available to them in STEM.

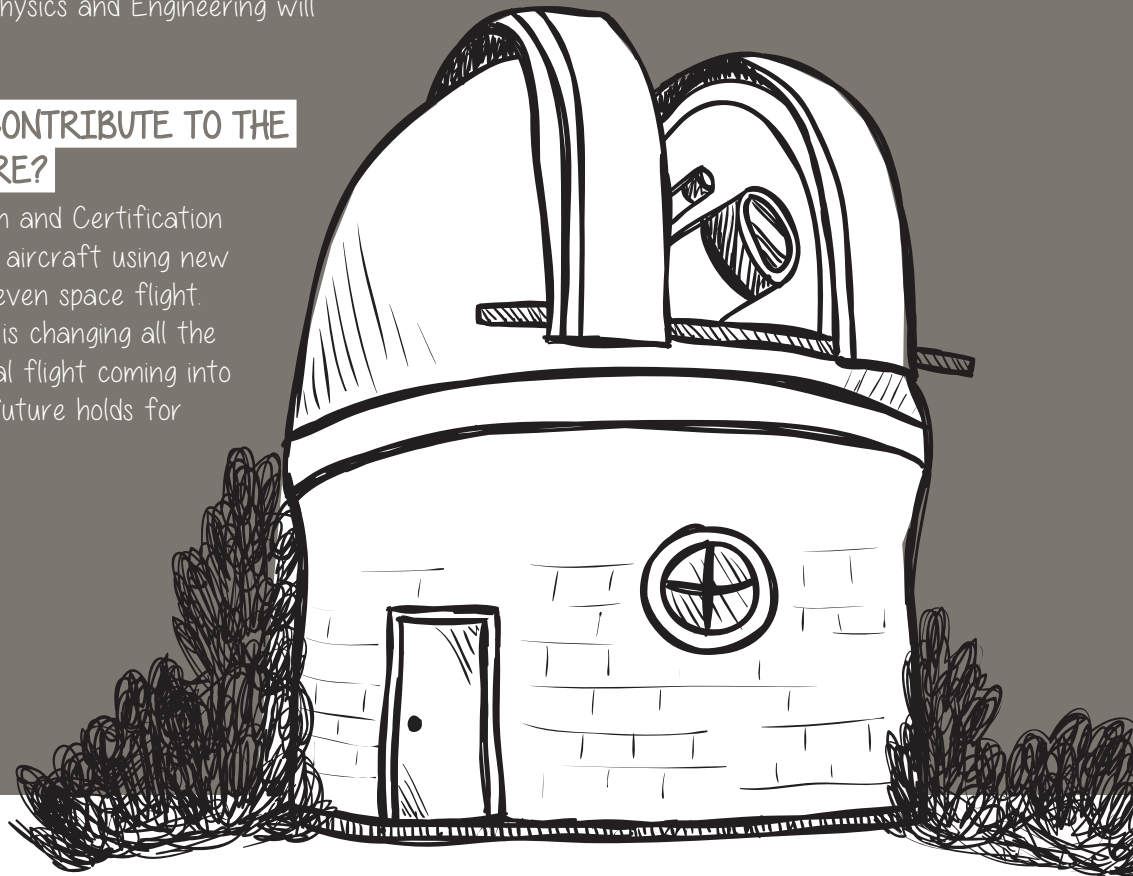


SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Good Literacy skills are important when writing, reading and following policies and regulations. Attention to detail is important for performing inspections, and good knowledge of Maths, Physics and Engineering will support this role.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

In my new role in the Design and Certification team I will be involved with aircraft using new technologies and potentially even space flight. The future of Space Travel is changing all the time, with private commercial flight coming into play, who knows what the future holds for Space Exploration!



Michelle

Quality Manager

WHAT DID YOU WANT TO BE AT AGE 15?

I'm not sure I knew what I wanted to be when I was 15, but my favourite subjects at school were Maths, Physics, and Technical Drawing so I looked for a career that required these subjects. I also enjoyed watching things being constructed, which probably also led me into engineering.

WHAT IS YOUR CAREER NOW?

I focus on quality, ensuring the company's products and services are delivered to specification and meet the customers requirements. Sometimes things don't go right, and part of my role is to work out why, it's called Root Cause Analysis. I then help to put actions in place to correct the issue and prevent it from happening again.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Although my job title is Quality Manager, I am actually a Civil Engineer, but I couldn't do my job without my engineering knowledge and experience.

FUN FACT ABOUT YOUR JOB

One of the tools I use to help find the root cause is called a Fishbone Diagram!

BEST BIT OF JOB

Problem solving because every problem is different. And meeting people; I get to work with lots of people from many different countries.



WHAT JOB CHALLENGES DO YOU FACE?

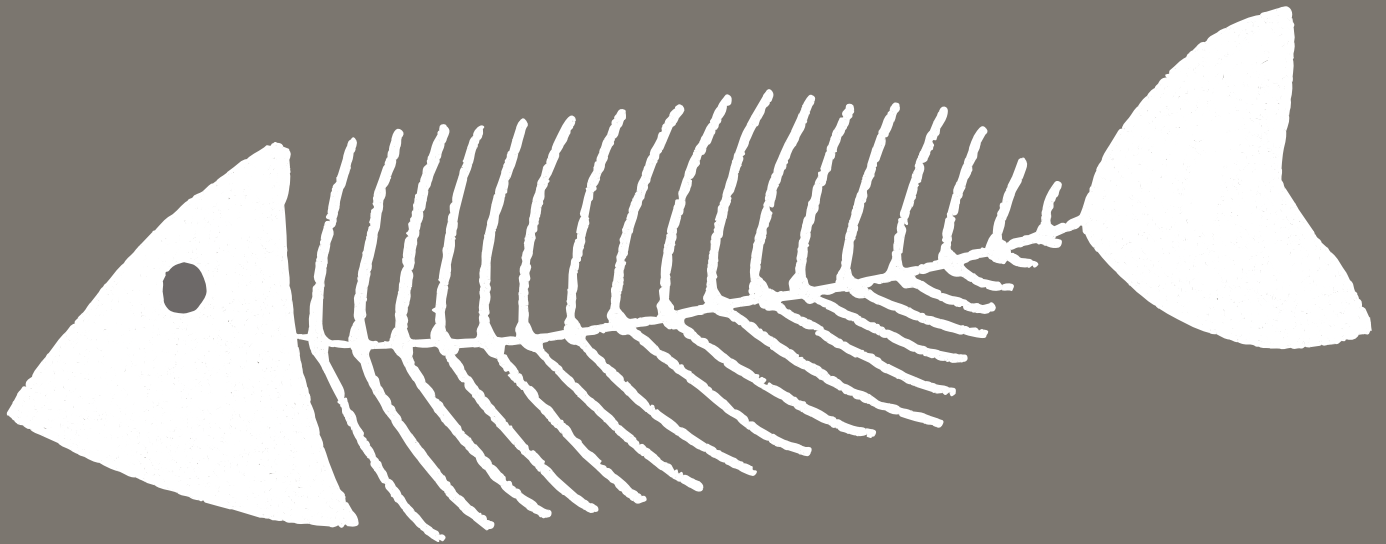
Finding that root cause! The more complex the issue the harder it can be, you can't make assumptions as you always need the facts.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths, Physics and an HNC in Civil Engineering. And the ability to ask lots of questions to get to that root cause!

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

By focusing on quality, I'm always trying to improve the products and services the company provides. This can include looking at better ways of doing things or using different materials, which can help the company to be more environmentally sustainable.



Raghd

Data Engineer

WHAT DID YOU WANT TO BE AT AGE 15?

I have always watched my father who works as a software developer doing very cool stuff on his computer and I wanted to pursue a similar career as his. However, I was encouraged by my family to study petroleum engineering and work in the oil and gas industry because it was very famous in my country and it will make it easy for me to find a job in the future, so I just followed their advice not thinking thoroughly about my choices. But hey, I don't regret it!

WHAT IS YOUR CAREER NOW?

I am really happy that I am pursuing my passion and working as a Data Engineer at the moment. I code everyday and I feel so excited when I solve a problem with a computer program that I've created. I feel very proud that I have realised that it is never too late to follow your dreams!

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Data plays a vital role in any industry nowadays. As a Data Engineer I develop day to day scripts and programs that help getting data from different sources and structure them into an organised format we call relational databases. Data Engineers' are the hidden soldiers for a successful business. We are the first people to tackle the influx of data that enters a company's systems. We are basically the foundation of any data strategy and without blocks, after all, you can't build a castle.

FUN FACT ABOUT YOUR JOB

Experience beats education (I couldn't agree more!)

BEST BIT OF JOB

It is forever expanding and literally I get to learn something new everyday.



WHAT JOB CHALLENGES DO YOU FACE?

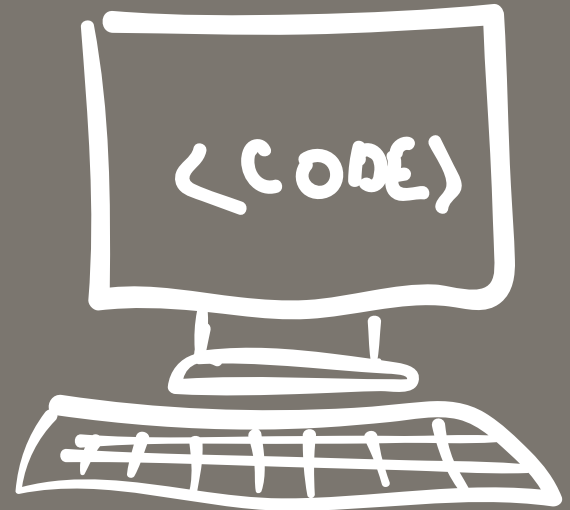
There are a lot of challenges that I face as a Data Engineer, but personally, since I had a different background which wasn't related to computing and programming, I had to get familiar with various new stuff like terms, programs, skills and the whole idea of becoming a Data Engineer. The Data Engineering industry is rapidly changing and growing, so we need to be fast and efficient and come up with solutions that are scalable and would be suitable for the future as well.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Everything is a code now. You need to become a strong developer with various programming languages like Python and query languages like SQL and be familiar with a lot of technologies. In terms of social skills, you need to communicate well with people from different disciplines and ensure you understand their requirements. But the most important thing of all, make sure you love what you're doing!

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

With more industries and companies shifting towards Digital Transformation, new types of data and more complicated data are being generated every second. Data is the new oil that will fuel successful businesses, and without data engineers, raw data can't be valuable.



Kim

Acoustic Consultant

WHAT DID YOU WANT TO BE AT AGE 15?

I didn't really know what I wanted to do when I was 15. It took me a long time to figure that out. I think this can be quite common for young people so don't worry if you are in the same boat. My best advice is to remain open to new learning experiences until you get a feel for what it is you feel passionate about.

WHAT IS YOUR CAREER NOW?

Now I work in acoustics which means I investigate the impact of sound and vibration on the world around us. Sometimes this means I will be out and about measuring real world sounds. At other times I will be at my desk using special modelling software to make predictions about how changing sound levels might affect people or things.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I actually came to this job from a degree in Mechanical Engineering. I use those skills a lot as my company is a civil engineering consultancy, and I often work on large infrastructure projects. For example, if a new road is being built, I will need to predict how changes in sound levels caused by constructing and operating the road, might impact sensitive locations in the nearby area. This requires an understanding of Maths, Physics and Computer Literacy.

FUN FACT ABOUT YOUR JOB

Sound is everywhere so we work in lots of different places. Some of my colleagues have worked on movie sets or have helped design football stadiums so that they sound really good. We even do underwater acoustic assessments, as construction activities underwater can disturb sea life, like dolphins, over surprisingly large distances.



BEST BIT OF JOB

I love the variety of my job. Sometimes I might be working at my desk but at other times I get to be outside, measuring sound in real life. I also have to use my brain every day to solve problems, so I never get bored.

WHAT JOB CHALLENGES DO YOU FACE?

The weather can make life really difficult if we want to measure sound outside. Wind and rain are really loud and can ruin your measurements. As the weather can be unpredictable, this can make it difficult to plan site work in advance. On the plus side, it means I don't really have to go out in the rain very often!

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

I have a degree in Mechanical Engineering and I use the maths, physics and computing skills in my job every day (there are lots of other routes to into Acoustics, even apprenticeships). I also need to be a good communicator as I talk to so many different types of people and I have to write reports about my findings that are technical but understandable.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

As the world advances, more and more infrastructure is built, more and more cars are on the road - basically there is more and more of everything. All of these things change the soundscape of the world around us and if we are not careful it can start to sound too loud, which can at best be really annoying and at worst can be harmful to your health. My job is to make sure it doesn't come to this. If I am doing my job right, the future will sound nicer and everyone will be happy with the soundscape around them.

Ralph

Mechanical Engineer

WHAT DID YOU WANT TO BE AT AGE 15?

When I was 15, I was really interested in cars and wanted to become a Racing Car Driver.

WHAT IS YOUR CAREER NOW?

My current role is within Engineering.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I use computing to design hardware and firmware components for company projects.

FUN FACT ABOUT YOUR JOB

We participate in air shows and other public forums

BEST BIT OF JOB

Finally getting something working

WHAT JOB CHALLENGES DO YOU FACE?

Complex technical hurdles, debugging of hardware and software. Ensuring our work is as safe as possible.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

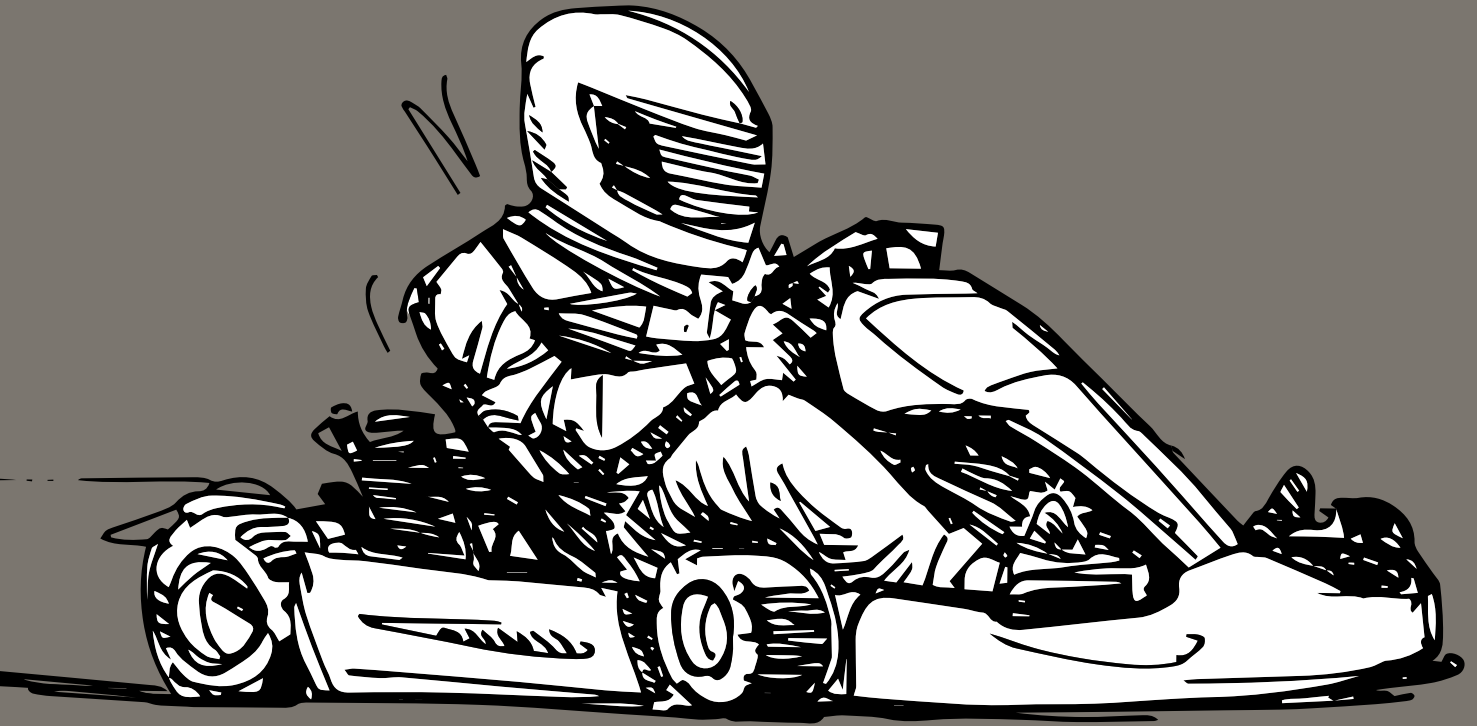
Problem-solving, Mathematics and Physics are key skills and subjects that I use most often in my job.





HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

It creates new technologies which will reduce casualties in armed conflict.



Joanna

General Aviation Unit Airworthiness Surveyor

WHAT DID YOU WANT TO BE AT AGE 15?

I originally wanted to be a Vet so I did various work experience placements with animals, but it was a “take our daughters to work day” with my dad when I was 14 that stayed with me. My dad was a Maintenance Manger and Licensed Engineer with British World Airlines at the time.

WHAT IS YOUR CAREER NOW?

My job involves inspection in relation to the design, maintenance, repair and safe operation of aircraft. I oversee, survey and inspect all types of aviation aircraft to ensure that they are following regulations and are up-to-code in terms of airworthiness, meaning that they are worthy or fully operational to fly safely in the sky.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Skills and elements of both computing and engineering are key to my role. Being able to recognise that the mechanics and technology of aircraft are working smoothly ensures airworthiness. I also use elements of computing and technology in inspections and investigating that all elements are working as they should be.

FUN FACT ABOUT YOUR JOB

My whole family have been involved in aviation. I have followed in my dad’s footsteps both as an Engineer and a Surveyor. I would like to emulate his easy-going helpful attitude!

BEST BIT OF JOB

I love the wide variety of things we deal with on a daily basis. Education is also a large part of what we do with the community.



WHAT JOB CHALLENGES DO YOU FACE?

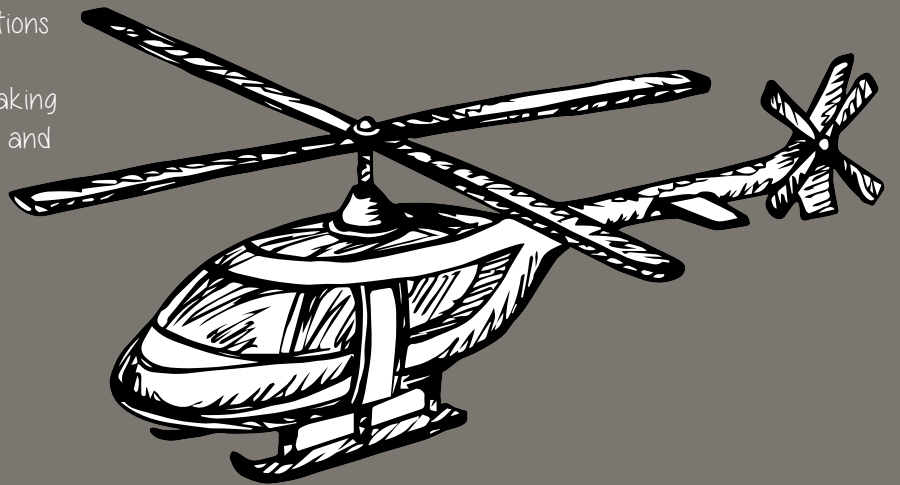
Once my ideas changed from being a vet, I realised university wasn't for me. I left my A-Level course halfway through to take a BTEC national diploma in Aerospace, which in all honesty was the course I should have been on all along. It gave me the opportunity to demonstrate the hands-on skills that gave me the edge.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Attention to detail is key when you are performing a surveyor role, with inspections and checklists of regulations. Computing and Maths skills are important when making calculations and ensuring measurements and other factors are being followed. Analytical and problem-solving skills hugely help also.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

My role ensures that all aircraft is Airworthy, and with developments in aircraft technology, I need to ensure that even newer models with more features still adheres to the regulations, which change all the time as aircraft does.



Beth

Pre Reg Optometrist

WHAT DID YOU WANT TO BE AT AGE 15?

At age 15, I wanted to become a Midwife.

WHAT IS YOUR CAREER NOW?

I am an Optometrist. This means that I check the health of your eyes and see if you need any glasses or contact lens correction.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I use new and exciting technology in my role as an Optometrist. One of these is the OCT scanner which takes a 3D scan of the back of your eye and helps me to detect eye diseases much sooner than using traditional methods alone.

FUN FACT ABOUT YOUR JOB

The eyes are the only place in the body through which you can see arteries and veins without having surgery or using a camera! This means that I can detect problems happening in the rest of the body, such as diabetes, just by looking into your eyes!

BEST BIT OF JOB

This is a tough question because there are so amazing aspects of my job! I love helping children see clearly for the first time, the smile on their faces when they get their new glasses is priceless! I also love that I get to meet new people every day from all different backgrounds.

WHAT JOB CHALLENGES DO YOU FACE?

Sometimes I have to give people bad news regarding their eye health, which can be very difficult.



SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Being good at communicating is the main skill you need as an optometrist, as well as being able to adapt your communication to suit different ages. A good knowledge of Human Biology in general, not just the eye, is also very important as lots of different diseases that occur in the body can present in the eye.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

As an Optometrist I see lots of people with eye emergencies and am able to refer patients on to specialist optometrists in the community for further help if needed. This contributes to taking pressure off the NHS and keeping hospital appointments free for those who are really poorly.

Lucy

Early Careers Manager

WHAT DID YOU WANT TO BE AT AGE 15?

I remember wanting to become a PE Teacher.

WHAT IS YOUR CAREER NOW?

I help young people find out about amazing STEM careers in Optometry.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Optometry uses really exciting technology such as hospital grade eye scanners called OCT machines to check the health of peoples eyes. I also use my computer every day to organise my tasks, design resources and communicate with people.

FUN FACT ABOUT YOUR JOB

The back of the eye is the only place in the body where we can take a really close look at blood vessels, without any invasive procedures (going inside the body!). This is so important as we can tell a lot about patients general health by looking at their blood vessels and with OCT, we can pick up conditions up to 6 years earlier than we could have done in the past.

BEST BIT OF JOB

Meeting all the fantastic young people when I go out to schools and events to show how great optometry is!

WHAT JOB CHALLENGES DO YOU FACE?

Lots of people have heard of my company, but not many have heard of optometry. Because of this, we're very short of optometrists (eye doctors).



SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

You need to be able to communicate clearly and enthuse others in topics they might not have heard of before. You also need to be organised as there are so many schools to talk to, but only one of me!

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I'll be using technology more to help reach more people, but there will always be some parts that I do face-to-face.



Richard

Chief Executive

WHAT DID YOU WANT TO BE AT AGE 15?

I wanted to be a Footballer or have a job where I could work outside.

WHAT IS YOUR CAREER NOW?

My primary role is to create the system and regulations to support others in my company to succeed. It's not about me, but ensuring that our company is seen as a great organisation for what it does for our stakeholders and for what it offers people who work here.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I have many conversations with CAA colleagues, where I learn and reinforce my respect and admiration for them. This includes use of communication software to stay up-to-date.

FUN FACT ABOUT YOUR JOB

My first job was as a paper boy when I was 11, and in secondary school I worked at a butchers shop after school. It helped develop my work ethic!

BEST BIT OF JOB

I engage with lots of different people on really interesting issues, and I find inspiration in so many!

WHAT JOB CHALLENGES DO YOU FACE?

When working with people, no day is ever the same!

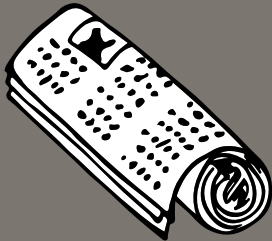
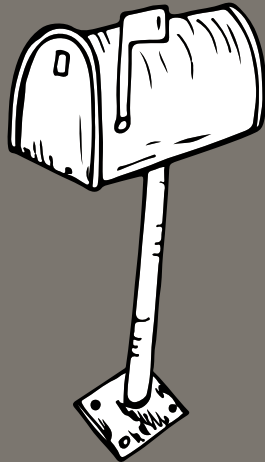
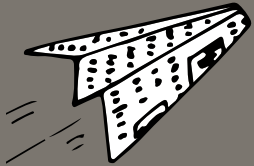
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Business Management skills are important to the role, and studying Economics helps with this. Leadership skills are key to managing people, as well as the ability to motivate others.



HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

Creating systems to ensure the future of Aviation is constantly changing and improving



Ammaarah

Graduate Compliance Engineer

WHAT DID YOU WANT TO BE AT AGE 15?

A Marine Biologist, a Chemist, an Accountant and someone who helped save the world!

WHAT IS YOUR CAREER NOW?

I help make the engines that people use around the world safe and reliable

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I am working for a company that makes diesel and gas engines for different applications around the world. Some of these applications include powering the wonders of the world!

FUN FACT ABOUT YOUR JOB

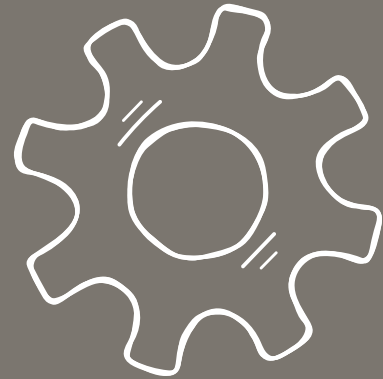
I give advice to engineers and designers about which government laws need to be followed to ensure our products are safe and compliant.

BEST BIT OF JOB

Every day is different, there is always a new problem to solve!

WHAT JOB CHALLENGES DO YOU FACE?

Trying to reach team members in another country who are in another time zone to me can be difficult. Sometimes you have to wait an entire 24 hours before you can get an answer from someone.



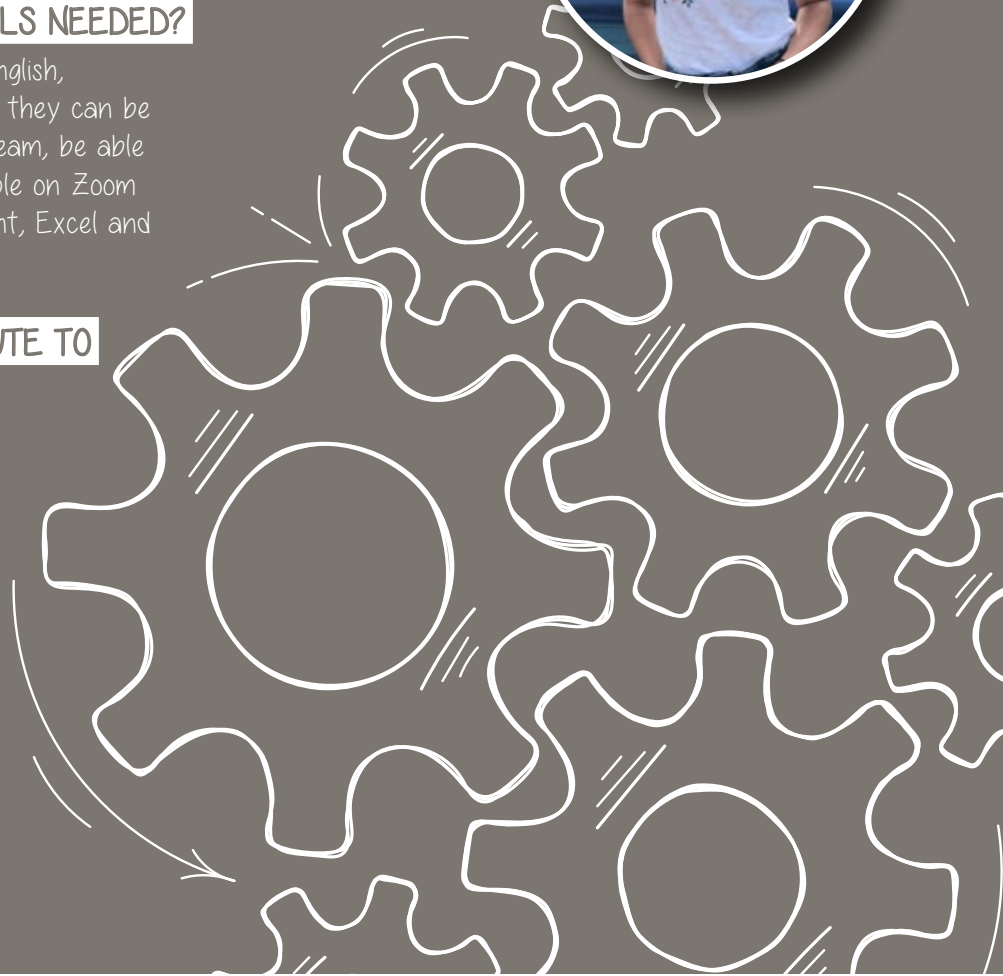


SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Be able to read and write with good English, understand how engines work and how they can be made safe, be able to work well in a team, be able to speak to audiences of over 100 people on Zoom sometimes, know how to use PowerPoint, Excel and Word!

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I give advice to the company to make sure that everything we create leads to a cleaner, safer and more sustainable environment.



Ben

International Director

WHAT DID YOU WANT TO BE AT AGE 15?

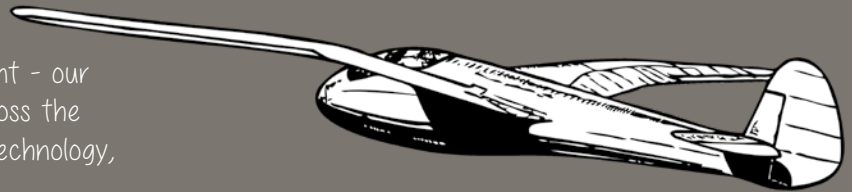
When I was younger, I was in the Air Cadets flying, gliding, shooting, camping, and making great friends. I think the cadets inspired me to work in aviation.

WHAT IS YOUR CAREER NOW?

I joined the CAA from Rolls-Royce Aero Engines and started in jet engine certification. I then moved into management and I've been working my way around our company ever since, managing and leading teams from safety strategy to personnel licencing to change programmes, and now as International Director. In the International Group we provide support to industry in the UK, national authorities all over the world, and to the UK Government - our purpose is to improve aviation standards across the globe. And we cover everything from new technology, noise, aviation security to pilot examinations.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My love of understanding how things work and solving problems was what led me to a career in engineering. I worked in engineering contracting for about 18 months, part of teams designing chemical and pharmaceutical plants, but I soon felt the draw back to aviation and worked for the government and Rolls-Royce in jet engine research and design. However, my experience in both Engineering and Computing are applicable to my management position in aviation now: a desire to help solve problems is a lot of what management is about.





FUN FACT ABOUT YOUR JOB

Deciding to leave my original specialism and go for a career in management and leadership was a challenge for me. I don't regret it, it was a very conscious decision, but I've never lost my love of jet engines and still try and keep up with the technology; if you want to distract me from something else, then just start talking engines! And even though I switched, I still get to work in aviation.

BEST BIT OF JOB

I love being part of aviation and combining that with the CAA having such a strong purpose for public protection is a great reason to get up and come to work every day.

WHAT JOB CHALLENGES DO YOU FACE?

Like everyone, I have good and bad days, but by being involved in an industry I love, helping to lead an organisation with a great purpose and a great team to work with, the bad days are not that frequent. The biggest challenge is there never being enough time to do everything I want to do.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Planning and delivering communications and campaigns to international clients is vital in my role, as well as managing relationships with many different companies and people. Business subjects are useful, and from my Engineering background the Sciences are critical - it helps me understand all aspects of our industry.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

My role helps develop the Global Aviation System, and Aviation is such an exciting industry to be involved in. New aircraft and technologies are coming into the system all the time, and our desire as a species to travel and stay connected is undiminished. Not only that but we need to address the climate challenge, continuing to change and develop the way we travel globally but making less of an environmental impact.

Christopher

Flight Standards Officer & Just Culture Champion: GA Sector Team

WHAT DID YOU WANT TO BE AT AGE 15?

I have always wanted to work in aviation, and since I was young I wanted to travel and explore the world.

WHAT IS YOUR CAREER NOW?

I am responsible for covering MORs, ABNLs and other investigations along with Joint-Chairing the Infringement Coordination Group. In addition as Just Culture Champion I am leading the review of processes and comms from a Just Culture perspective across all GA activities.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Flight technology is needed to ensure that I can monitor planes that are in the sky. Engineering is involved in air engine checks to plane technical safety.

FUN FACT ABOUT YOUR JOB

If an opportunity presents itself, go for it! Try not to doubt your abilities as you may have more to offer than you realise.

BEST BIT OF JOB

The investigation side of the work is my favourite, including assessing the background to a specific incident, determining the root cause and identifying subsequent mitigating actions.



WHAT JOB CHALLENGES DO YOU FACE?

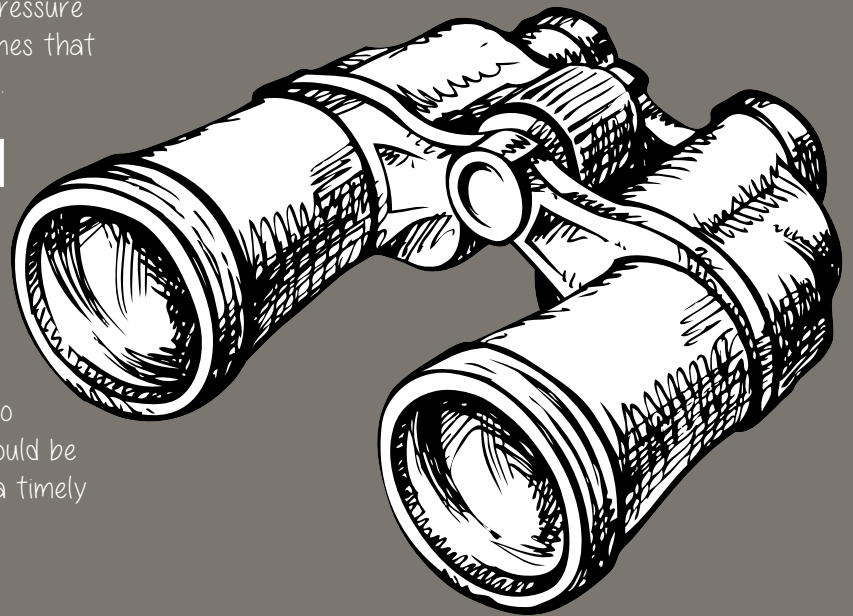
Ensuring all safety reports are investigated in both a fair (Just Culture) and timely (Future Occurrence Prevention) manner.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Attention to detail and remaining calm under pressure are both important skills needed to monitor planes that are in the air, as well as making quick decisions.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

There is an underlying element of trepidation amongst a small fraternity within the GA community regarding occurrence reporting. To counteract this, we continue to have open and transparent dialogue with the community to help communicate the message that reports should be investigated based upon a just principle and in a timely manner.



Emily

Project Support Officer

WHAT DID YOU WANT TO BE AT AGE 15?

I think I wanted to work in something creative - as I always enjoyed drawing, crafting and sewing. Art is an escape to tap into my creative side.

WHAT IS YOUR CAREER NOW?

Having lost my job as a pilot during the Covid pandemic, I wanted to diversify my skills and knowledge and now work as a Project Support Officer. I am happy to still be working in the aviation industry. I work with administration in overseeing projects and how they are run, as well as organising these projects and collaborating with the different people involved in each project.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

In administering projects and supporting their organisation and delivery, computer software is used such as spreadsheets and emails, as well as virtual meetings.

FUN FACT ABOUT YOUR JOB

My biggest ambition is to make the aviation industry more appealing and welcoming to women and girls.

BEST BIT OF JOB

In my new role, I am always learning. I love having a job where days are unpredictable and I am always working on new tasks, with new people.



WHAT JOB CHALLENGES DO YOU FACE?

Feeling like I was held to higher standards and needed to earn my place in the industry as a minority.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Administration and Computer Software skills are essential to this role, as well as multi-tasking and collaboration and teamwork skills. Maths knowledge supports me with problem-solving and in Aviation Geography supports my knowledge of the world.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

There are many different aspects and roles involved in Aviation, and my job gives insight into how these interact. Developments and change happens all the time, from the Computer Software we can use to communicate, to the Engineering involved in projects that develop aircraft and engines.



Alex

Acoustic Consultant

WHAT DID YOU WANT TO BE AT AGE 15?

I had two choices: either an Inventor, or a Rock star!

WHAT IS YOUR CAREER NOW?

An Acoustic Research Scientist and Acoustic Consultant

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

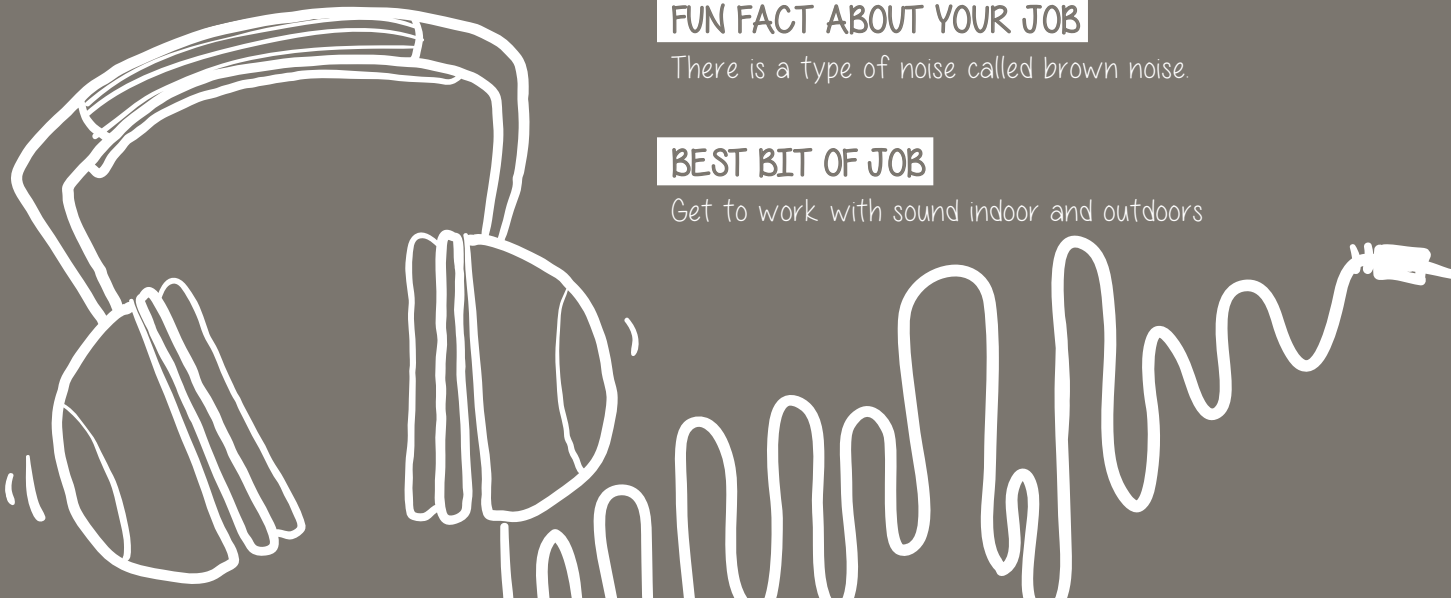
We use computing and engineering to design how a place will sound when it is built, or how loud a road or railway will be when it's finished. We want to minimise the impact of industry, transport, and construction on people lives.

FUN FACT ABOUT YOUR JOB

There is a type of noise called brown noise.

BEST BIT OF JOB

Get to work with sound indoor and outdoors





WHAT JOB CHALLENGES DO YOU FACE?

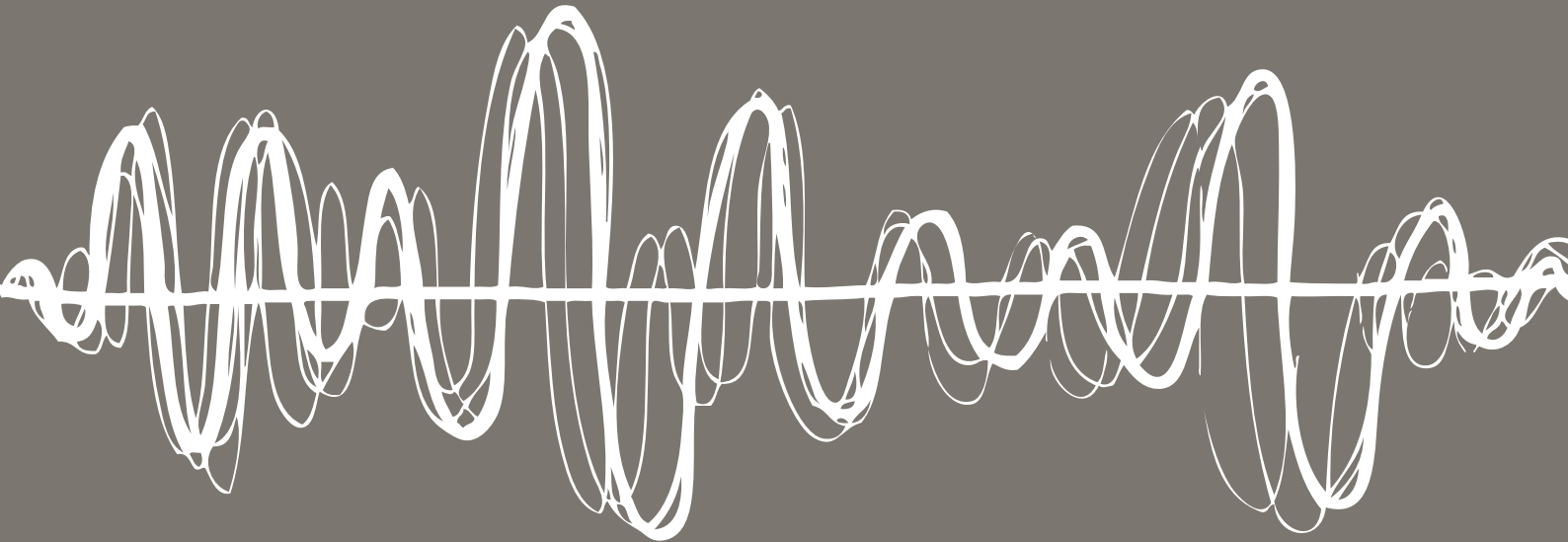
We have to apply our knowledge to solve problems and reduce people's chances of being annoyed by noise.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths, Science, Physics, Music Technology but combinations of these are fine too.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

We design the Built Environment to be quieter to improve health and well-being.



Adelle

Performance Based Oversight Lead

WHAT DID YOU WANT TO BE AT AGE 15?

I had my first flying lesson at 14, and growing up in North Yorkshire I enjoyed the beautiful countryside from the sky. This inspired me to become a pilot.

WHAT IS YOUR CAREER NOW?

The work I do seeks to protect the UK public, and also influences Global Aviation Safety. I lost my job as a pilot during the COVID pandemic, so I completed a Master's Degree in Emergency Management and Resilience. Now, my role allows me to share my knowledge and experience to help uphold the highest possible standards in UK Aviation.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Technology and engineering are important to the operation of an airplane as a Pilot. They are also central to my role now, where we update the aviation industry and public on safety procedures and systems.

FUN FACT ABOUT YOUR JOB

I'd really like to go to Space. In fact, I'd really like to be the pilot of the spaceship, but I think that's for the next generation of pilots' to enjoy!

BEST BIT OF JOB

As I Pilot, I looked after thousands of people, keeping them safe as they travelled on my aircraft. Now, my new role also means that I look after the public and their safety in aviation.



WHAT JOB CHALLENGES DO YOU FACE?

During the Covid pandemic, I was made redundant from my Pilot job. I decided to use it as a catalyst for change. I worked with the Civil Service training new Work Coaches, playing my part in supporting the UK through the unemployment crisis caused by the virus.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Forward-thinking is key to identifying and addressing risks in Aviation. Decision-making skills will support in overseeing that all is working as it should be. Maths is key in Pilot skills, as you need to know your Times Tables! Psychology has helped when looking at Human Factors in Aviation.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I help constantly improve the safety and dependability of Aviation, making it more accessible to more people in the public to travel around the world. The future could see the world come together and be more connected.



Dave

Technical Standards Surveyor

WHAT DID YOU WANT TO BE AT AGE 15?

I have always enjoyed fixing and making things, and Design Technology was one of my favourite school subjects. I wanted to be like my grandad - a DIY Pro!

WHAT IS YOUR CAREER NOW?

In my role, I conduct technical assessments and manage applications for aircraft airworthiness certificates, making sure that they are safe to fly. I assess broken aircraft to see how we can fly them safely to get them repaired urgently.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Engineering is key to maintaining and repairing any issues with aircraft.

FUN FACT ABOUT YOUR JOB

Joining the Air Cadets is a great way to use your interest in aviation and develop new skills!

BEST BIT OF JOB

The variety in applications and constant challenge to ensure aircraft are in a safe condition means I am constantly being a detective to find out what is going on with an aircraft.

WHAT JOB CHALLENGES DO YOU FACE?

Learning to break down challenges into parts, take one at a time and make it more manageable.



SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Mechanical and Physics knowledge contribute to the Engineering knowledge and skills I use in my role.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

With the technical nature of my role, it changes with the developments in aircraft. What might they look like in the future? Who knows!



Diane

Vetting Officer

WHAT DID YOU WANT TO BE AT AGE 15?

Perhaps something creative, as I loved drawing, dancing and reading.

WHAT IS YOUR CAREER NOW?

I work in ensuring that appropriate clearances are held by people who work in aviation functions, making sure that trusted people are working in these important roles.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Technology supports me in making the necessary searches and communications in my role, working alongside people.

FUN FACT ABOUT YOUR JOB

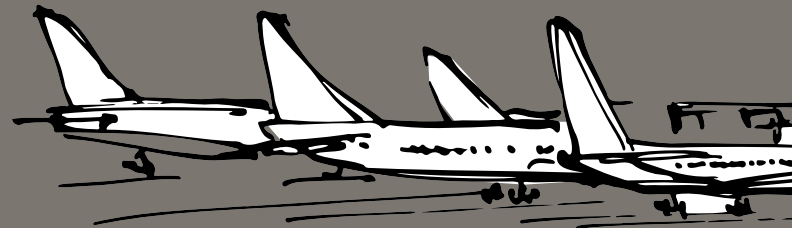
I love languages and have studied Latin, French and Spanish. I have a love of words in all languages!

BEST BIT OF JOB

It is mainly autonomous, interesting and no two days are exactly the same in dealing with a variety of people.

WHAT JOB CHALLENGES DO YOU FACE?

Juggling priorities can sometimes be a challenge.



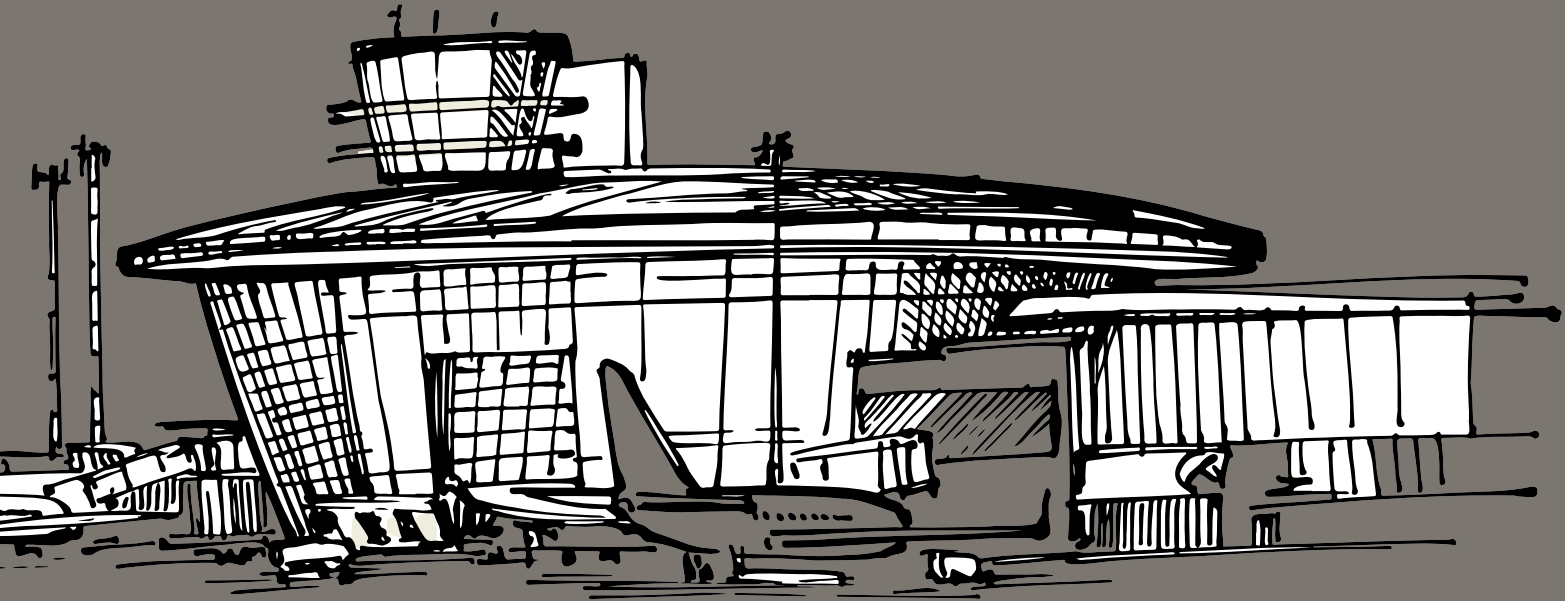


SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Knowledge of databases and working systems is important, as well as being thorough and precise.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

Continuing to be sure that trustworthy people are working in a safe and secure industry, to make sure that passengers and colleagues are safe and secure when working around and travelling on aircraft.



Helen

Space Business Delivery Manager

WHAT DID YOU WANT TO BE AT AGE 15?

I wanted to be a Disney Animator. Art was my favourite subject throughout school. I liked being creative and had a bit of talent at fine art.

WHAT IS YOUR CAREER NOW?

I manage a very broad spectrum of work that is new to my company around space and regulations for space activity in the UK. I bring together the subject matter knowledge from experts to develop a business delivery programme that we can follow. I look at the development of a model that supports the UK's journey to space and ensuring that it is carried out safely.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Engineering and technology are very important factors that contribute to the development of spaceflight - from engineering to developing rockets and engines, to the computing needed to control and navigate them.

FUN FACT ABOUT YOUR JOB

My career path has been one very much of trial and error. I have had a variety of jobs over the years from being a trainee veterinary nurse, working in the police, working with horses, going to university for two terms and deciding it wasn't for me. I have learned and grown from each of these roles.

BEST BIT OF JOB

I love people and being part of a team. We each bring something unique and working together sharing the highs and the lows allows you to see what can be achieved when we come together.



WHAT JOB CHALLENGES DO YOU FACE?

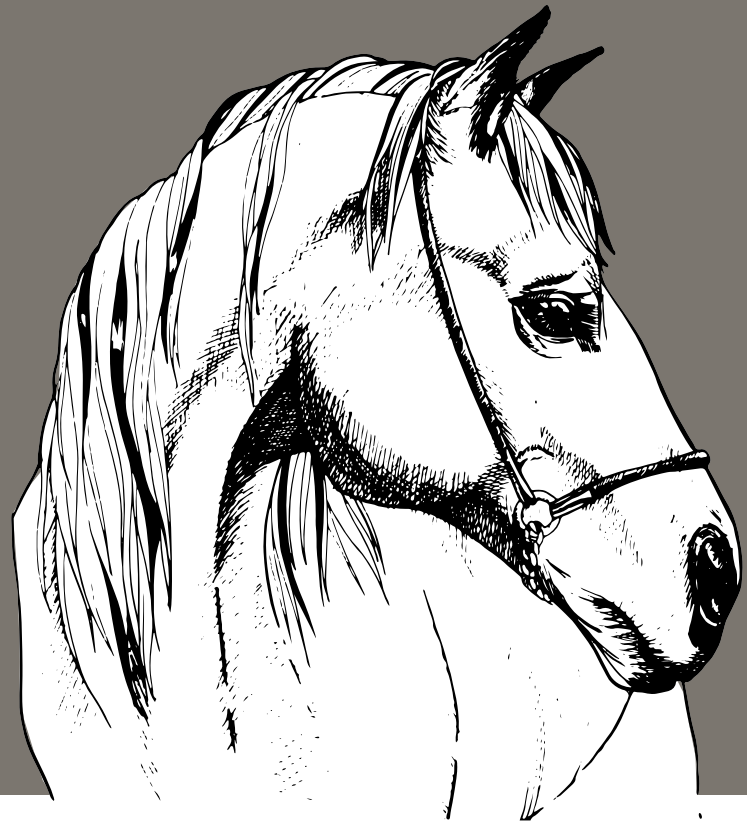
I have quite often been the only female in the room and you do have to work harder to be heard and there is still a lot of unconscious bias that goes on. This is starting to change!

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Problem-solving is a very important skill and being able to build relationships with people. Planning and organisation is important in putting important information together in an accessible way. Co-ordination with experts to ensure that information is understandable for all means that Literacy skills are important.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

My role directly contributes to the future of UK Space Exploration, where we will no doubt discover new things!



Darren

Optical Assistant

WHAT DID YOU WANT TO BE AT AGE 15?

I had no idea what I wanted to be aged 15

WHAT IS YOUR CAREER NOW?

My current role is as an Optical Assistant.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

We have enhanced technology that can scan through the layers of a patients eye which can pick up diseases much earlier than we previously could, this gives the customer a better chance of being able to treat the condition.

FUN FACT ABOUT YOUR JOB

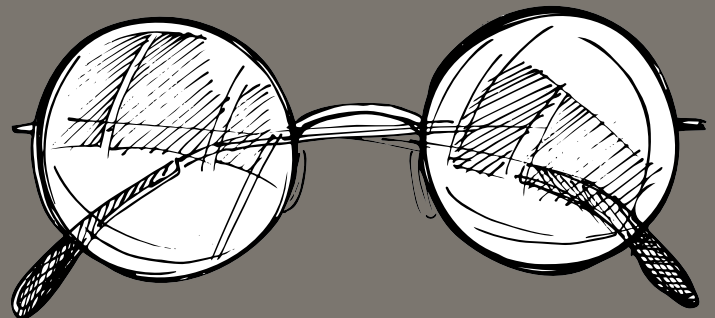
We check the health of the eye as well as your prescription

BEST BIT OF JOB

Helping all types of people find their perfect glasses

WHAT JOB CHALLENGES DO YOU FACE?

Dealing with problems that may arise with new or existing glasses that need to be sorted out.



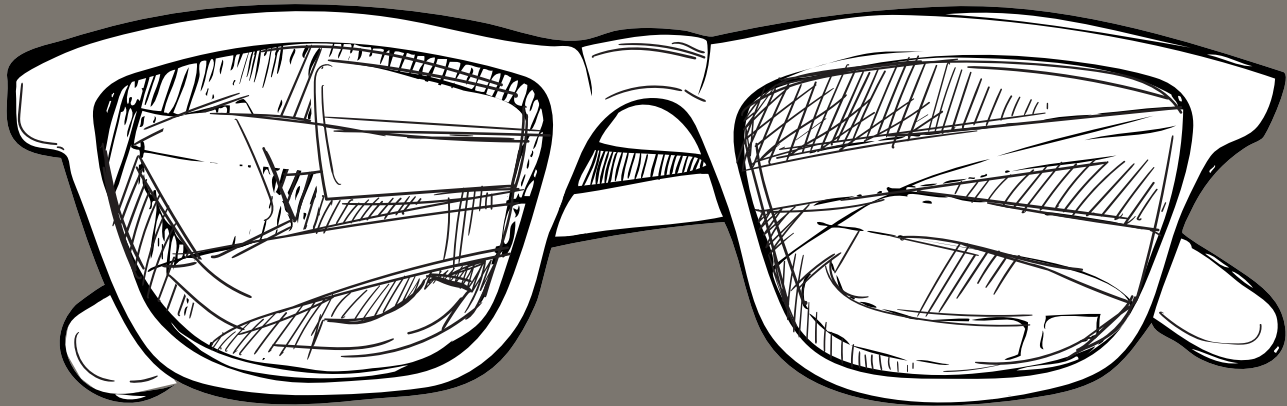


SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Willingness to learn, confidence, people skills and common sense.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

We now sell and promote a new range of glasses call Rewear. These glasses are made from 6 plastic bottles, therefore making them more environmentally friendly.



Maurice

Principal Software Engineering Manager & Principal Product Owner

WHAT DID YOU WANT TO BE AT AGE 15?

When I was 15, I considered a career as a Medical Doctor, Engineer and/or Military Officer - but not all three at the same time!

WHAT IS YOUR CAREER NOW?

I started out as a Naval Engineering Officer but left for an MSc in Satellite Engineering followed by a PhD in Engineering. Presently I work as a Principal Software Engineering Manager and Principal Product Owner. This allows me to work with diverse teams to solve important problems and deliver incredible products which are always at the cutting edge of technology.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

A Software Engineering Manager is responsible for managing the software team and helping them to solve problems in the software development lifecycle. A Product Owner is responsible for managing the software product to ensure that it meets or exceeds the requirements of the business and satisfies customers.

FUN FACT ABOUT YOUR JOB

Software Engineering Management is a unique Technology and Engineering role with very widespread responsibilities because different companies and industries have competing requirements and outcomes. Although we need to have good engineering and technology skills, we also must coach, motivate and inspire our teams. As Product Owner I require technical and engineering skills but rather than team management I need to be passionate about the product and the consumers. Both roles need me to model good working and inspire my team for success.



BEST BIT OF JOB

I get to work with super smart people to deliver incredible products that shape the world we live in. No two days are the same. I have helped build Earth Observation Satellites launched into space but also improved technology.

WHAT JOB CHALLENGES DO YOU FACE?

You never know how consumers will use or react to the product. In trying to create the future, we can often create products that users do not want or need. Other times we create a product that is great for today, but it becomes obsolete in a few years because the technology, market or consumers have moved on. Worse, the problems are quite complex and to stay abreast of the ever-changing technology landscape requires continuous personal and professional improvement. A lot of fun!

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

You can get into the Software Engineering Manager role through a university course, an apprenticeship, or a graduate training scheme. You should have at least 4 or 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English, Maths and Computing. It is also possible to study a business degree with programming as an add on. You are expected to lead and manage teams, so it helps to write and speak to a high standard. The good thing about this is that you can practice, practice, practice.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

My job changes the future by creating technology products and solutions that solve problems consumers care about and sometimes solving problems consumers are not even aware existed. It does this by bringing out the best in diverse groups of people and harnessing advances in technology.

Michael

Policy and Project Lead

WHAT DID YOU WANT TO BE AT AGE 15?

I have always wanted to be involved in aviation, and when I was younger I wanted to be a Pilot. I loved building model airplanes.

WHAT IS YOUR CAREER NOW?

My purpose is to successfully deliver projects in order to improve people's lives and the aviation industry. I am dedicated to effective regulation that supports and encourages a dynamic aviation sector. My role involves exploring ways to reduce the regulatory burden on the general aviation sector.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Working in regulation means having a sound knowledge of the computing and engineering elements that go into aircraft, their operation, and the different applications of this engineering and technology, including air travel and shows.

FUN FACT ABOUT YOUR JOB

At my time in life (I am 70), I want to walk the Pacific Crest Trail in USA (2650 miles) next year (2022) and sail around the world in my boat.

BEST BIT OF JOB

I love that my work makes a difference to aviation safety.

WHAT JOB CHALLENGES DO YOU FACE?

Attaining the education required for my ambitions having come from a working class background in the 50/60's. Overcoming inconsistent application of medical policies by different branches of the Military.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths and Computing knowledge are essential to performing this role, in order to recognise and uphold regulations and standards. Using my initiative supports me, as well as leadership skills and good Business Management skills.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I am always working to ensure that regulations are followed, but at the same time that Aviation can continue to grow and evolve to match the changing future of air travel.



Heulwen

Acoustic Consultant

WHAT DID YOU WANT TO BE AT AGE 15?

I wanted to be a Recording Engineer working in a recording studio.

WHAT IS YOUR CAREER NOW?

I'm an Acoustic Consultant, working predominantly in architectural acoustics.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My role is to engineer acoustic design solutions to create buildings and environments. I work alongside the architects, builders and other designers to see that places are designed and built to provide the right type of acoustic environment. For example, in a hospital, that means designing walls and floors to protect against noise transfer from space to space (to aid in privacy).

In a school, that would mean designing walls and floors to stop neighbouring classrooms from disturbing each other, and also designing classrooms to aid in good speech transmission to make it easier for everyone to hear the teacher. It's very important that the environments we live and work in are designed with acoustics in mind to give us the best possible resting, studying and living conditions.

FUN FACT ABOUT YOUR JOB

No day is the same - literally! I work on up to 20 projects at a time, so each day I will pick up new design queries across a range of my projects and answer them. Some days I spend out on site (that could be a field, a construction site or a finished building) and some days at my desk. I don't think there are many other jobs with this level of variety to them.



BEST BIT OF JOB

Going back to a completed project and seeing the acoustic design work in action - it's very satisfying. In buildings like concert halls and cinemas the acoustic design is obviously one of the key elements and it's wonderful to get feedback from users that a space "sounds great". But it's also rewarding to hear that people staying in a new hotel had a "great nights sleep" or that students in a new school "can hear their teachers perfectly".

WHAT JOB CHALLENGES DO YOU FACE?

Working on so many projects at once means that you need to be great at Project Management. It can be tricky deciding what piece of work to pick up first when more than one thing needs doing "urgently".

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

You need to be confident with Mathematics and working with large quantities of numerical data. Calculations and review of acoustic data are the foundation of acoustic design work. You also need to be good at listening to people and good at managing your time. You need to be able to talk and present to groups of people about your design.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

By designing schemes with consideration of Acoustics, we are helping future users of all sorts of buildings and spaces have suitable resting, studying and living conditions. Buildings are designed to last for many years. We consider the future requirements of the spaces and how changing technology and living habits impact on how we rest and study, and implement that into the designs.

Nicola

International Programme Manager

WHAT DID YOU WANT TO BE AT AGE 15?

I wanted to work in the outdoors. I enjoyed being outdoors; climbing trees and making dens in the woods. I ended up joining the Brownies, followed by the Girl Guides.

WHAT IS YOUR CAREER NOW?

I collaborate with the wider departments of my company and their functions, ensuring that all are working together, as well as working alongside working partners in other countries. I help develop and motivate others to be able to achieve their own goals.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Knowledge of computing and technology supports my role, especially in communicating with other areas of my company, both in the UK and in other countries. Technology makes this communication much easier!

FUN FACT ABOUT YOUR JOB

My nan is my role model and taught me a lot of my cooking skills!

BEST BIT OF JOB

Being able to interact with different nationalities and cultures.

WHAT JOB CHALLENGES DO YOU FACE?

Initially, transitioning and adapting your ways of working from an open and relaxed business culture into a rigid, bureaucratic culture.

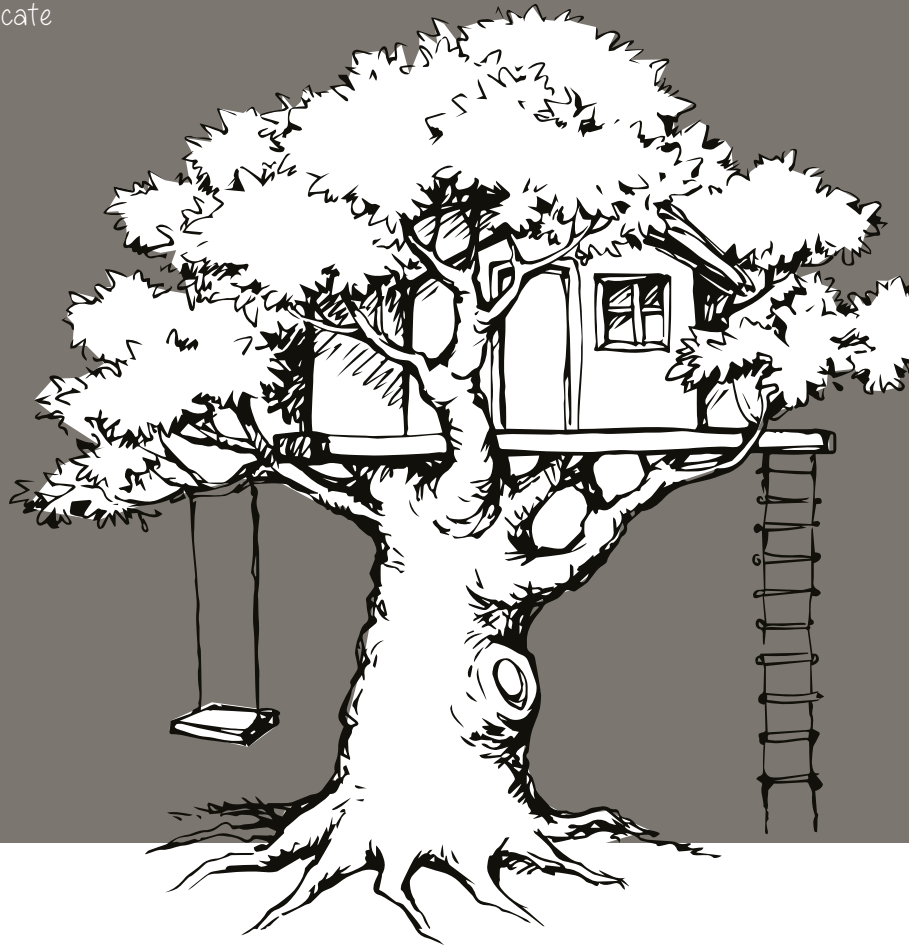


SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Excellent communication skills are needed to work in a role like mine. Language skills are important, as well as good Literacy to be able to communicate internationally.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

Working internationally means bringing the world together, and the future sees global collaboration happening more and more.



Sophie

Head of Operations and Training International Group

WHAT DID YOU WANT TO BE AT AGE 15?

I have always loved travelling, and I was inspired to study Geography at school. I always wanted a job where I could travel and explore the world.

WHAT IS YOUR CAREER NOW?

I work in a managerial position, leading the department that oversees how our departments operate on an international level. I ensure that things are working smoothly and support projects and operations to be completed efficiently. I am also involved in training, supporting new colleagues and team members to prepare them for their roles.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Working on an international level involves the use of technology for virtual communications, particularly for meetings and to deliver training. In supporting and overseeing operations, elements of engineering and computing are involved in all areas of future companies.

FUN FACT ABOUT YOUR JOB

My first proper job after studying was as in business travel based at a small airbase. I loved seeing aircraft from my office, although the office rumbled every time they took off!

BEST BIT OF JOB

I love the variety and all the different people I get to work with across my company. I love the purpose of our organisation and I love the fact that I was able to be a part of setting it up as a Social Enterprise.



WHAT JOB CHALLENGES DO YOU FACE?

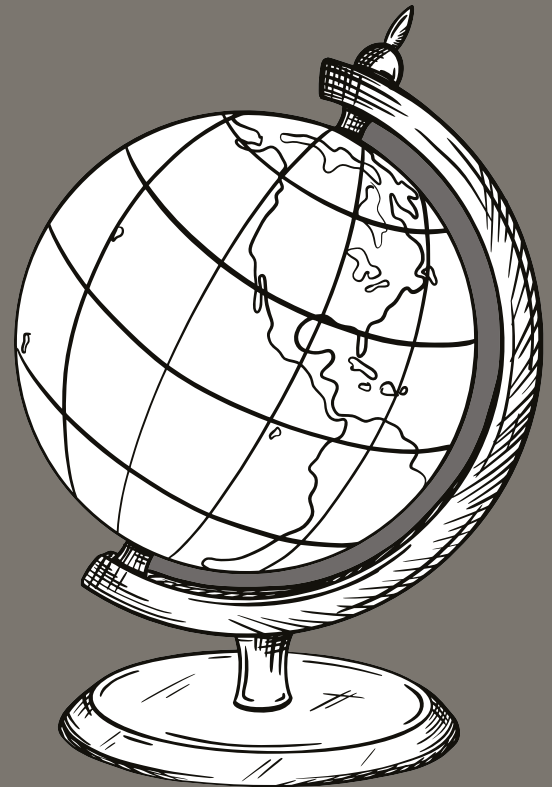
There were some challenges when progressing through roles, particularly at a more senior level. Sometimes I am my own barrier in having the confidence to believe in my own abilities and capabilities.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Being Head of Operations and Training means that I am always working with people, so communication and leadership skills are key. Being involved in travel means that my love of Geography has always been useful.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I am involved in training the future of Aviation, ensuring that our industry continues to grow and become more developed and efficient as time goes on.



Alex

Lab Technician

WHAT DID YOU WANT TO BE AT AGE 15?

I had dreams of becoming a famous Musician.

WHAT IS YOUR CAREER NOW?

I have two separate roles within my career now, both as a Lab Technician and an Actor.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Lab Technician: We use a wide range of machines to manufacture the lenses. These machines are complex computers and require a good knowledge to operate.

FUN FACT ABOUT YOUR JOB

Lab Technician: Lenses go through 3 machines in the lab before being ready to fit.

Actor: I've filmed scenes for an AppleTV series with Callum Turner and Austin Butler.

BEST BIT OF JOB

Lab Technician: Being able to come in for each shift and work with someone different, and bounce ideas and knowledge off each other.

Actor: Being able to work on the set of a Second World War Air Base / B17.

WHAT JOB CHALLENGES DO YOU FACE?

Lab Technician: Every job is different, and so each lens requires a level of quality and care. It can take the smallest things to do something wrong, and so requires a lot of concentration and knowledge of your skill.

Actor: Having to be ready and happy with waking up from 2am-5am and work upwards of 15 hour days, 5 days a week in harsh environments.



SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Lab Technician: Every job is different, and so each lens requires a level of quality and care. It can take the smallest things to do something wrong, and so requires a lot of concentration and knowledge of your skill.

Actor: The ability to accurately and creatively react to the scenario. For this particular job, the knowledge and skills required to operate a Norden Bombsight, and how to start and fly a B17.



HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

Lab Technician: People will always need glasses, we are on the frontline working in labs. New lenses will become available, new frame styles - eco frames for example. We'll always be here to adapt to the changes and provide customers with the level of care necessary.

Actor: The arts will always be around, and will always be a comforting outlet for a lot of people. Especially in hard times.

Vicki

Business Support Officer

WHAT DID YOU WANT TO BE AT AGE 15?

I loved languages and I think that I always wanted to work with people.

WHAT IS YOUR CAREER NOW?

Working in business support means that I work alongside both the company and customers, ensuring that all is working well and that our customers are satisfied with the service they receive. I work with both new and existing customers, both the public and corporate customers, to continue engaging them with the company.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Working with people involves communication, and technology makes this easier and easier, whether the customer is on the phone nearby, or on a virtual call from across the world!

FUN FACT ABOUT YOUR JOB

I grew up abroad, so I enjoyed seeing different cultures and sunshine!

BEST BIT OF JOB

Complete variety across different areas and learning something different every day.



WHAT JOB CHALLENGES DO YOU FACE?

Progressing my career without having a specialist degree or holding any type of aviation license.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Language and communication skills are vital in my role, to enable me to talk to colleagues, clients and customers. I have to have good Literacy skills to negotiate, as well as create reports and make presentations.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I am connecting people and businesses, and with the world becoming closer with advances in technology, my job becomes more global!



Kirsten

Head of Strategic Relationships

WHAT DID YOU WANT TO BE AT AGE 15?

I love logical subjects, such as Algebra, Geometry and Physics. I wanted to be a detective and loved reading those kinds of stories.

WHAT IS YOUR CAREER NOW?

In my role, my responsibility is to ensure that strong relationships are built with businesses and clients. I work together with other organisations to achieve our common goals. I also look at the wider industry and trends within it, to see if there are any business opportunities that would benefit the company.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Computing is key on overlooking relationships between companies in different places, and in communicating with other businesses and clients. Technology also helps me look at trends and industry to gather information.

FUN FACT ABOUT YOUR JOB

During university I had an internship at Philadelphia International Airport. In my second week, all of the unionised employees went on strike and I ended up working 12 hour shifts as a janitor in the terminals for 3 weeks.

BEST BIT OF JOB

I love collaborating with colleagues, within the industry and internationally to improve aviation safety. On safety, everyone is willing to collaborate and share lessons learnt to help us all to improve.



WHAT JOB CHALLENGES DO YOU FACE?

Interestingly I was accepted more quickly when I worked in operational roles, perhaps because I was able to demonstrate my capabilities more quickly.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Good knowledge of Business and industry supports my role. Interpersonal skills are important when working with other businesses and clients, as well as language and communication skills. Analytical thinking and Maths skills help in analysing what is benefitting the company.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

I am involved in building relationships, which often results in new collaborations, developing the future of our company.



Tilly

Dispensing Optician

WHAT DID YOU WANT TO BE AT AGE 15?

When I was 15, I wanted to be a Teacher.

WHAT IS YOUR CAREER NOW?

My role is as a Dispensing Optician within the area of Optics.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

The software used to make the optical lenses is completely tailored and no two results will be the same.

FUN FACT ABOUT YOUR JOB

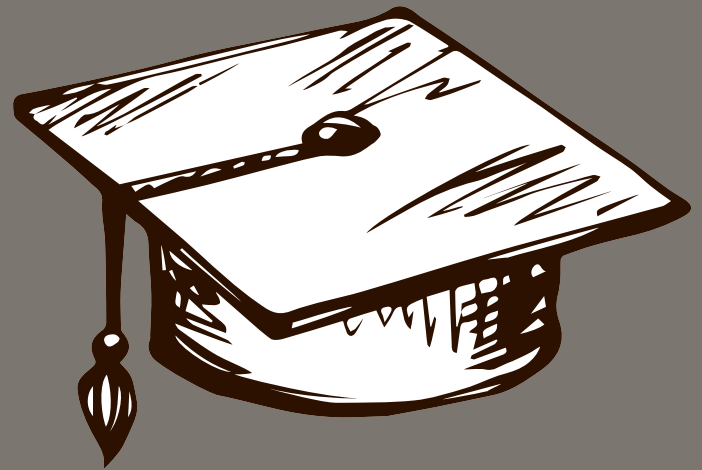
I once served Marvin from the band JLS!

BEST BIT OF JOB

Being able to help both vulnerable and able customers with their big decisions.

WHAT JOB CHALLENGES DO YOU FACE?

Sometimes customers can be tricky and you might be faced with confrontation every now and again.





SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

English, Maths, Biology are key subjects that are useful in my role. In terms of skills that I use regularly, confidence, patience, and flexibility are most important.

HOW DOES YOUR JOB CONTRIBUTE TO THE EVER-CHANGING FUTURE?

We use the latest technology to give customers the gift of sight.



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