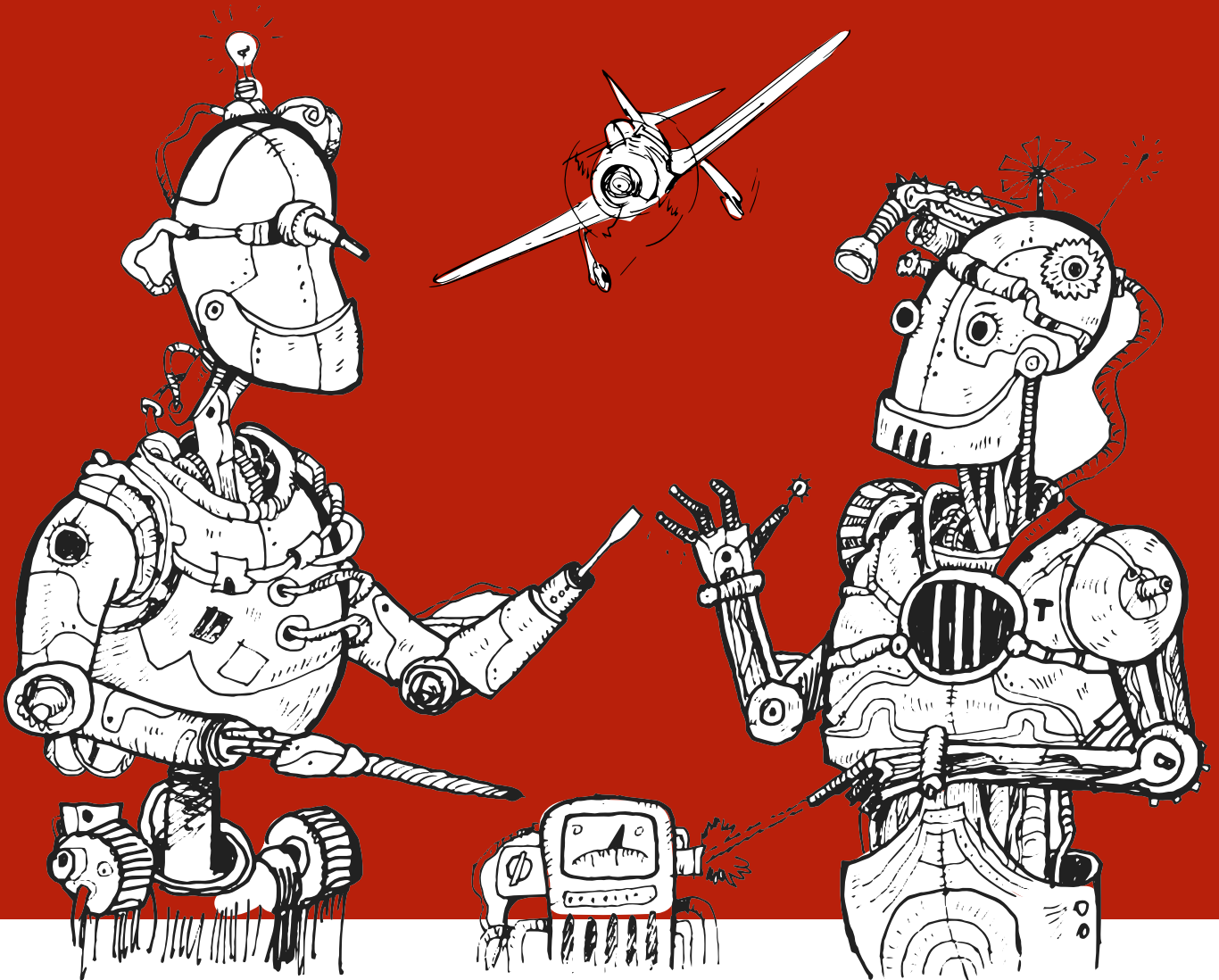# ENGiTECH

EXPLORING THE ENGITECH WORLD

[
Engineering and Technology
careers that change
the future
]

The future isn't what it used to be!

Exploring the EngiTech World

The aim of Exploring the EngiTech World is to learn about the different careers in the areas of Engineering and Technology. There are even more than you can find within this book! Could you be a future Engineer? Or working in the future of Technology? Meet some of our STEM Ambassadors and STEM professionals who work in these kinds of jobs.

Engineering is the use of science and math to design or make things. People who do engineering are called engineers. Technology is the use of knowledge to invent new things, like devices and tools that make people's lives easier. Both of these sectors work to change the future!

DID YOU KNOW?

- At 443 feet high, the London Eye is currently the fourth-largest Ferris wheel in the world.
- Anything in the world that has been built was first planned out and engineered.
- Engineering is always advancing and is helping to learn about space, like the Rosalind Franklin Rover, being built in Stevenage in the UK.
- Wi-Fi signals are doughnut shaped!
- There are more devices than people living on the planet!
- More than 300 different parts make up one mobile phone!

The
STEM
HUB

Brenda

STEM and Aviation Skills Consultant

WHAT DID YOU WANT TO BE AT AGE 10?

I didn't know what I wanted to do for a career when I was at school and it's ok not to know at such a young age. Keep your options open, continue with the subjects you enjoy. Work hard and you will find the path that's meant for you!

WHAT IS YOUR CAREER NOW?

My role involves creating awareness to our younger generations of careers in STEM, Aviation and Aerospace. My job is to inform young people about what is involved in the different roles in these industries, to encourage and inspire them to consider studying for these careers in their future.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

In my role, I have to have knowledge of the subjects needed for various careers, as well as all of the available careers within my industry within Computing and Engineering, as well as all other STEM subjects.

FUN FACT ABOUT YOUR JOB

I was a lifeguard in my local leisure centre. I worked there for 7 years, right through my studies. I saved a few lives during this time and it was a really fun place to work!

BEST BIT OF JOB

The opportunity to inform, inspire and encourage our younger generations of career paths they might never have known about or considered as incredibly rewarding.
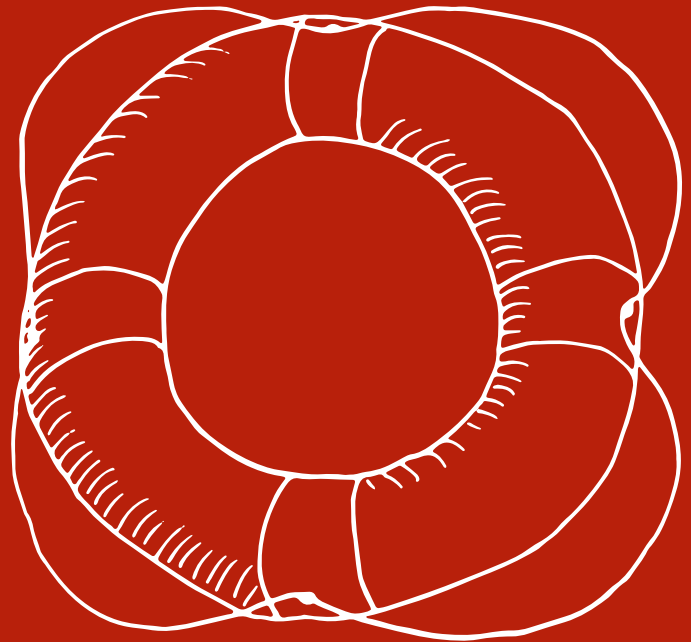
WHAT JOB CHALLENGES DO YOU FACE?

Not knowing what I wanted to do for a career when I was at school was a scary thing. However, I have no regrets, you are always exploring and learning. I have enjoyed a great career so far and I am really excited about where the future might lead.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Inspiring the next generations in Aviation and Aerospace careers I require great communication skills. Good language skills also help with this. I work with many teams when organising initiatives, so teamwork is a must. Passion and drive have played a really key skill also.

HOW DOES YOUR JOB CHANGE THE FUTURE?

I directly work to inspire our future - with careers that are always changing! We need skills and talent for jobs that do not even exist yet - now that is exciting!

Thomas

Cyber Security Certification Specialist

WHAT DID YOU WANT TO BE AT AGE 10?

I have always enjoyed Maths, it was something that made sense to me and you could always find out if you had the right answer. I have always wanted to take this further.

WHAT IS YOUR CAREER NOW?

My job is at the heart of computing and technology, where I gather information about where threats to information technology systems come from and how they work. I gather information and evidence from computer systems, keep databases of potential threats to our systems, and report these with recommended actions.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My role is vital to technology and its use in the workplace. If our technology is hacked, it cannot work securely. Cyber security ensures that technology works as it should.

FUN FACT ABOUT YOUR JOB

This is my first job! I got an email from my university about a bursary scheme and decided to sign up! After going through multiple challenges, I got an internship and then a job!

BEST BIT OF JOB

I love the variety of challenges that I face day-to-day.

WHAT JOB CHALLENGES DO YOU FACE?

I am someone who has dyslexia, so it takes me longer to read and write well.
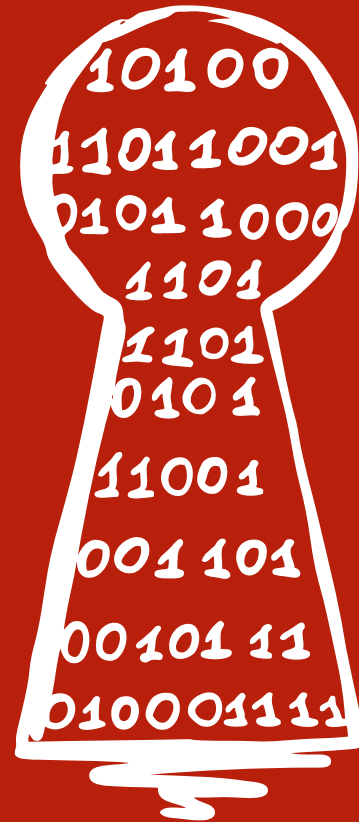
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Knowledge of computing operating systems is key to this role, as well as using problem-solving, pattern-seeking, and prediction skills. Computing and Maths are key subjects that contribute to working in this role.

HOW DOES YOUR JOB CHANGE THE FUTURE?

Cyber security threats are constantly evolving, and so must those who work in roles like mine. We are always developing processes to ensure that our computing and technology systems remain safe and secure.

Ammaarah

Graduate Compliance Engineer

WHAT DID YOU WANT TO BE AT AGE 10?

A Marine Biologist, A Chemist and someone who saves the world!

WHAT IS YOUR CAREER NOW?

I am working for a company that makes diesel and gas engines for different applications around the world, and even powers the wonders of the world!

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

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

FUN FACT ABOUT YOUR JOB

I give advice to engineers and designers about which government laws they have to follow.

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 in another time zone can be difficult. Sometimes you have to wait a whole 24 hours before you have an answer.
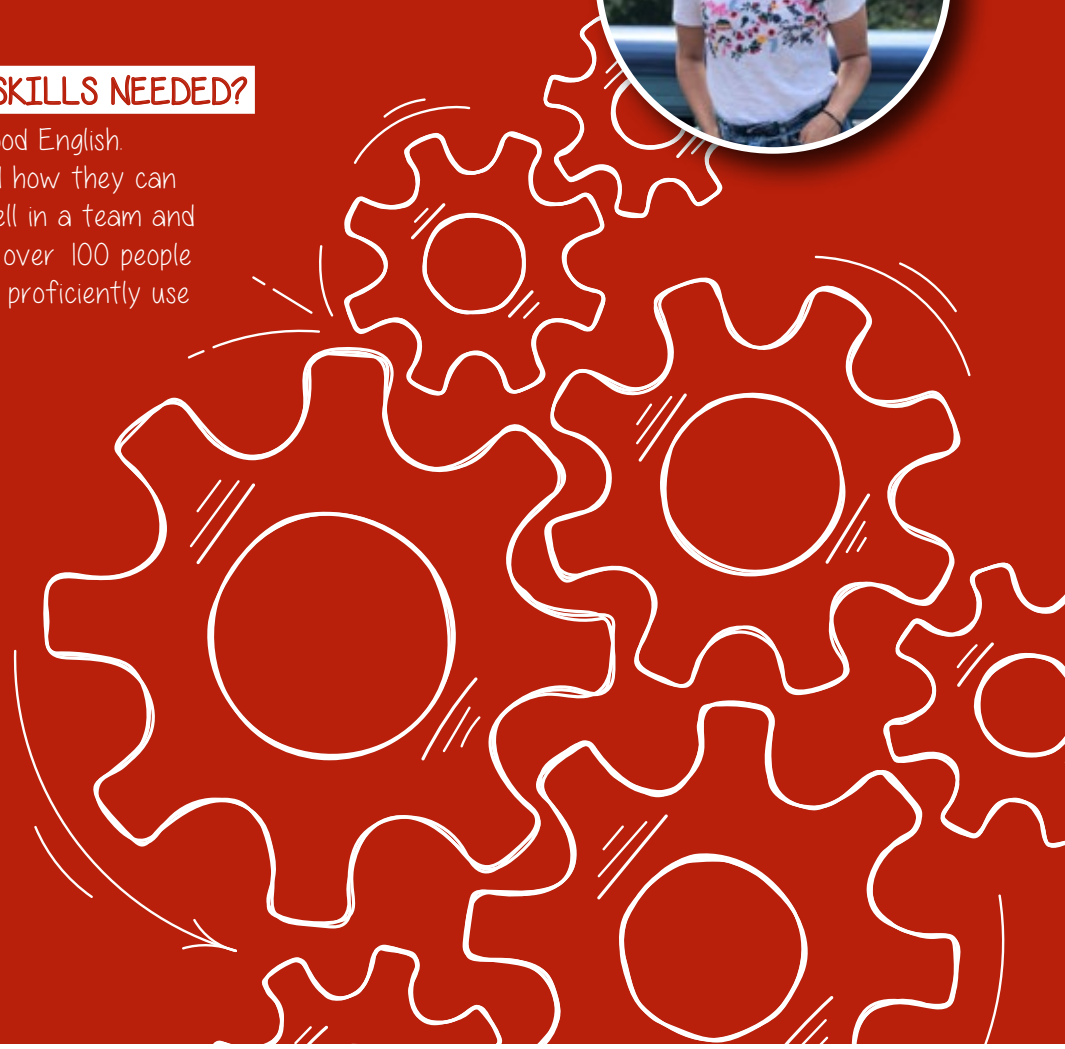
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

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 and confidently speak to audiences of over 100 people on Zoom sometimes. Know how to proficiently use PowerPoint, Excel and Word!

HOW DOES YOUR JOB CHANGE THE FUTURE?

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

Michelle

Quality Manager

WHAT DID YOU WANT TO BE AT AGE 10?

I'm not sure I knew what I wanted to be when I was 10, but I loved playing with Lego and Meccano and watching things being built, which is probably why I got 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 different 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; you need the facts.
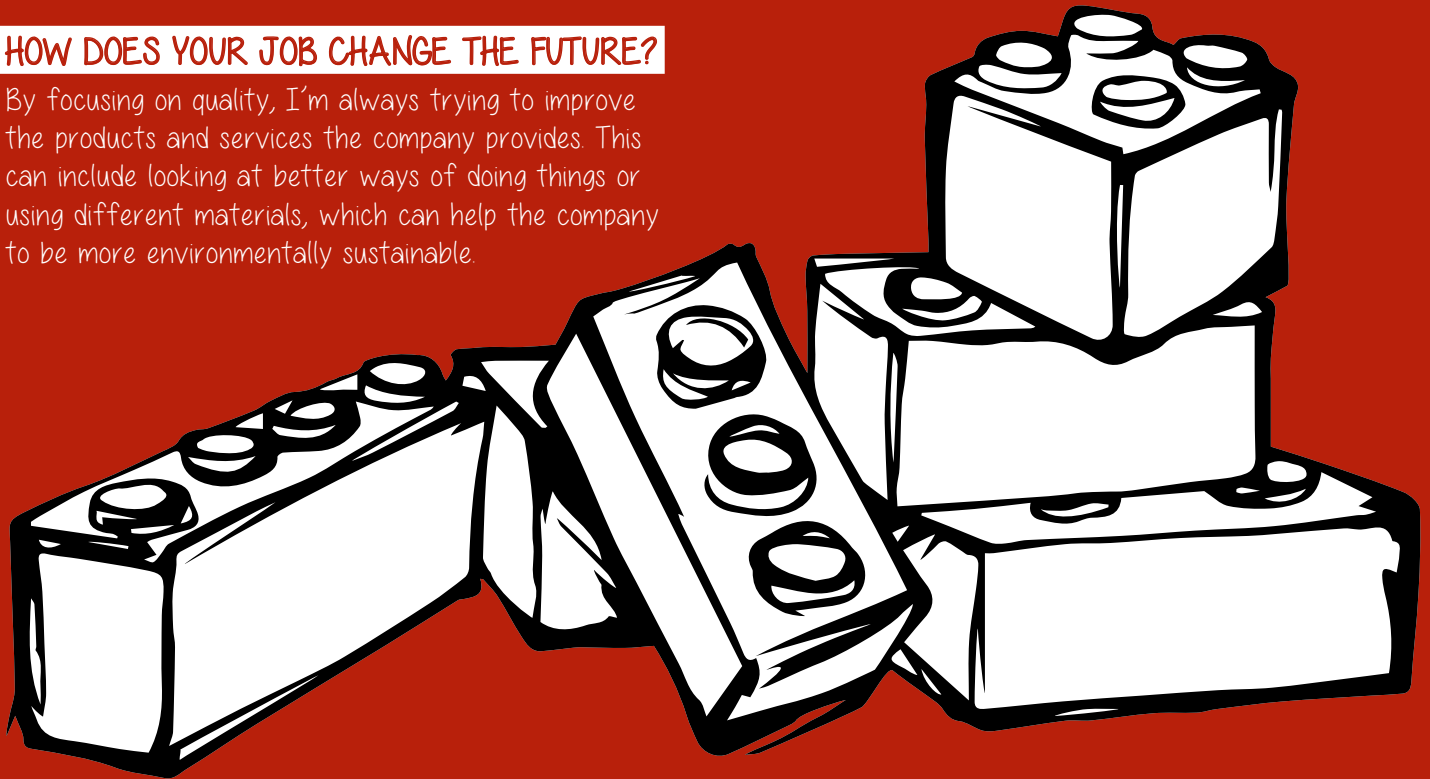
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

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 CHANGE THE 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.

Lucy

Early Careers Manager

WHAT DID YOU WANT TO BE AT AGE 10?
A Nurse or Vet, but I had no idea really!

WHAT IS YOUR CAREER NOW?
I help young people find out about 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 people's eyes. I also use my computer every day to organise tasks, design resources and communicate with people.

FUN FACT ABOUT YOUR JOB
The back of the eye is the only place in the body we can take a really close look at blood vessels with out going inside!

BEST BIT OF JOB
I get to meet thousands of young people every year and show them some exciting stuff!

WHAT JOB CHALLENGES DO YOU FACE?
Lots of people have heard of my company, but very few have heard of optometry, so we are very short of optometrists.

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 need to be organised as there's so many schools to talk to, but only one of me!

HOW DOES YOUR JOB CHANGE THE FUTURE?

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

Damian

Airworthiness Surveyor

WHAT DID YOU WANT TO BE AT AGE 10?

Engineering has always been within me, as when I was younger I enjoyed taking things apart to find out how they worked and then enjoyed putting them back together again!

WHAT IS YOUR CAREER NOW?

I work in Airworthiness, working with information relating to the design, maintenance, repair and safe operation of aircraft. My job is to make sure that designs and changes made to aircraft still makes planes airworthy and safe for passengers.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Technical knowledge is key to me role, so being familiar with the technology and engineering elements within aircraft is very important, and always changing!

FUN FACT ABOUT YOUR JOB

We have to constantly check for airworthiness by maintaining and continuously inspecting aircraft, meaning this role lets you always be near an airplane!

BEST BIT OF JOB

The diversity of the role and the people and organisations I interact with.

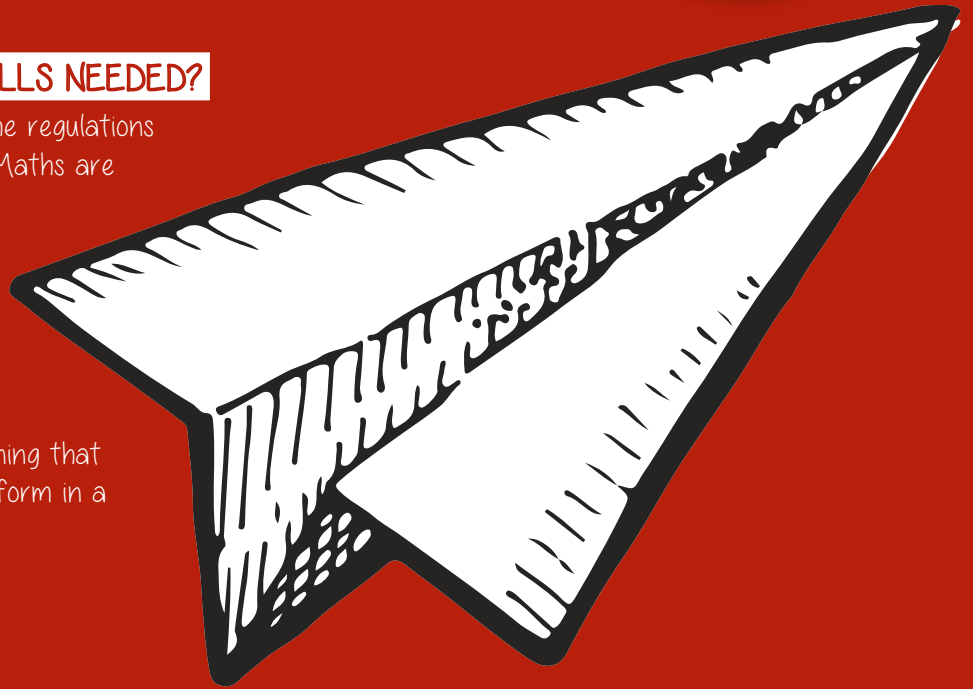### WHAT JOB CHALLENGES DO YOU FACE?

Having ADHD has presented me with a number of challenges throughout my career.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Detailed knowledge of aircraft and the regulations is important to this role. Physics and Maths are important subjects to help with this. Electrical and Mechanical knowledge is also essential.

HOW DOES YOUR JOB CHANGE THE FUTURE?

Aircrafts are always developing, meaning that in the future they could look and perform in a completely different way!

Alex S

Acoustic Consultant

WHAT DID YOU WANT TO BE AT AGE 10?

An Inventor or a Rock Star

WHAT IS YOUR CAREER NOW?

Acoustic Research Scientist and Acoustic Consultant

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Acoustics Design relies on knowledge of Physics, Engineering and Human Perception.

FUN FACT ABOUT YOUR JOB

There is a type of noise called Brown Noise.

BEST BIT OF JOB

It's never the same job twice, every project is different. We work indoors and outdoors and acoustic and noise assessments are rarely done in the rain or high wind because they interfere! It's a good mix of office and outdoor work.

WHAT JOB CHALLENGES DO YOU FACE?

Every project is different, and we must apply our knowledge and experience to make sure we've done a good job, it is a welcome challenge.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths, Science and an affinity with Music and Media editing help too. Software Engineering/Scripting is more important nowadays too.

HOW DOES YOUR JOB CHANGE THE FUTURE?

Sound can impact peoples health and wellbeing in positive and negative ways. Through our work we can help make our built environment better for people and the natural world.

17

Imogen

Hardware Engineer

WHAT DID YOU WANT TO BE AT AGE 10?
A Red Arrows Pilot

WHAT IS YOUR CAREER NOW?
Engineering

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?
I get to design the computer systems for fast jets and helicopters

FUN FACT ABOUT YOUR JOB
Engineering can be a really creative job, letting you use all of your maths and science skills but also all of your creative and inventive skills too.

BEST BIT OF JOB
I often get to go to air shows and watch the aircraft I design equipment for fly and do incredible tricks

WHAT JOB CHALLENGES DO YOU FACE?
Technology is getting smaller and better all the time. Some of the parts we use in our designs are smaller than a grain of rice, and can be quite difficult to see if you have it round the right way, or have the right part when you are checking to make sure everything will work.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Science, Maths, English and Information Technology are all useful subjects for this job. Working as part of a team and good communication skills are really useful.

HOW DOES YOUR JOB CHANGE THE FUTURE?

I will get to learn more about new and different technologies, and how we can use these to improve our designs and make them better for the people who use them.

Kirsten

Systems Engineer

WHAT DID YOU WANT TO BE AT AGE 10?
A Physicist or a Chef

WHAT IS YOUR CAREER NOW?
Engineering within Aerospace and Defence

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?
I look in to Artificial Intelligence and Machine Learning which on a technical level is computing and coding, but I also look at the overall market pull and where it would fit in to current or future architectures/systems which is where systems engineering fits in to this.

FUN FACT ABOUT YOUR JOB
There is lots of travel involved!

BEST BIT OF JOB
Having the ability to explore and develop the future technologies and harness their potential.

WHAT JOB CHALLENGES DO YOU FACE?
Working from home early in your career limits the rate of knowledge transfer from more experienced engineers.
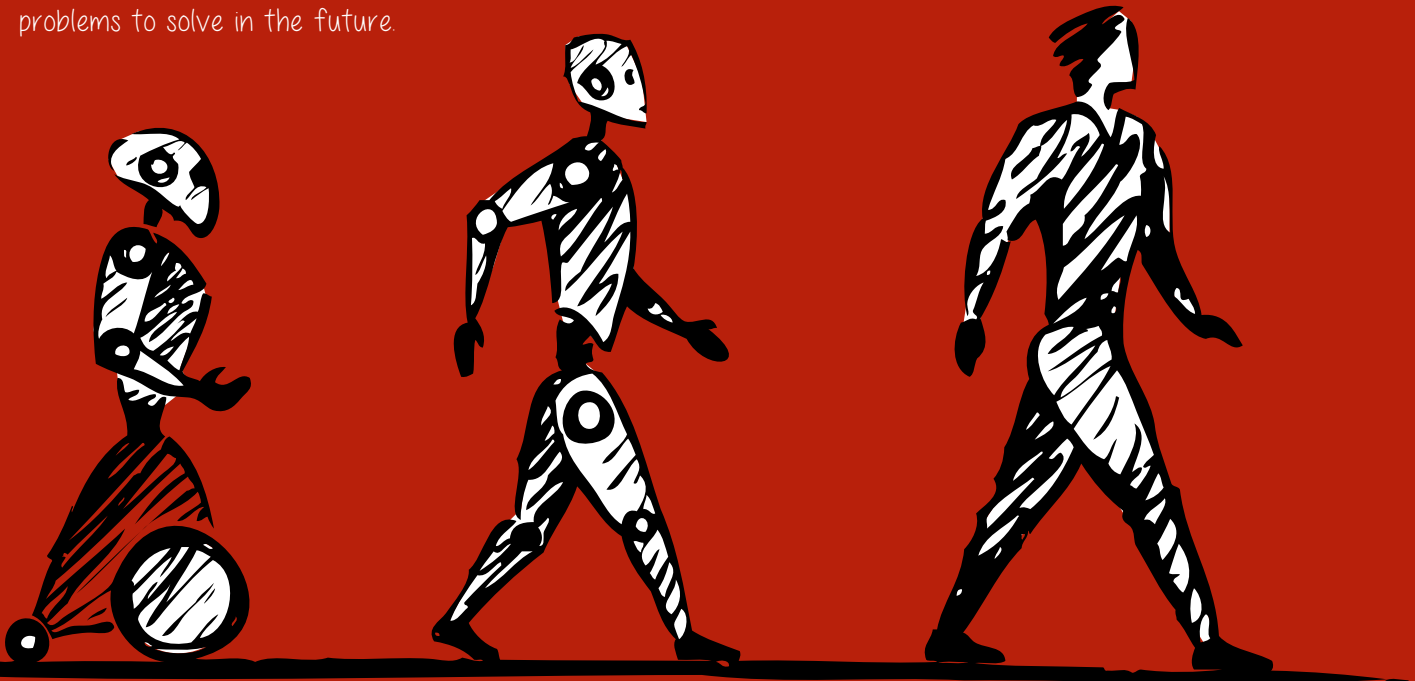
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

For my current role Physics/Engineering, Coding and Maths are key.

HOW DOES YOUR JOB CHANGE THE FUTURE?

My job will shift to the new technologies and new problems to solve in the future.

Ralph

Mechanical Engineer

WHAT DID YOU WANT TO BE AT AGE 10?
A Racing Car Driver

WHAT IS YOUR CAREER NOW?
Engineer

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
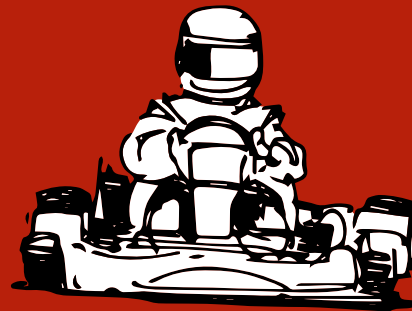
BEST BIT OF JOB
Finally getting something to work!

WHAT JOB CHALLENGES DO YOU FACE?
Complex technical hurdles, debugging of hardware and software. Ensuring our work is as safe as possible.
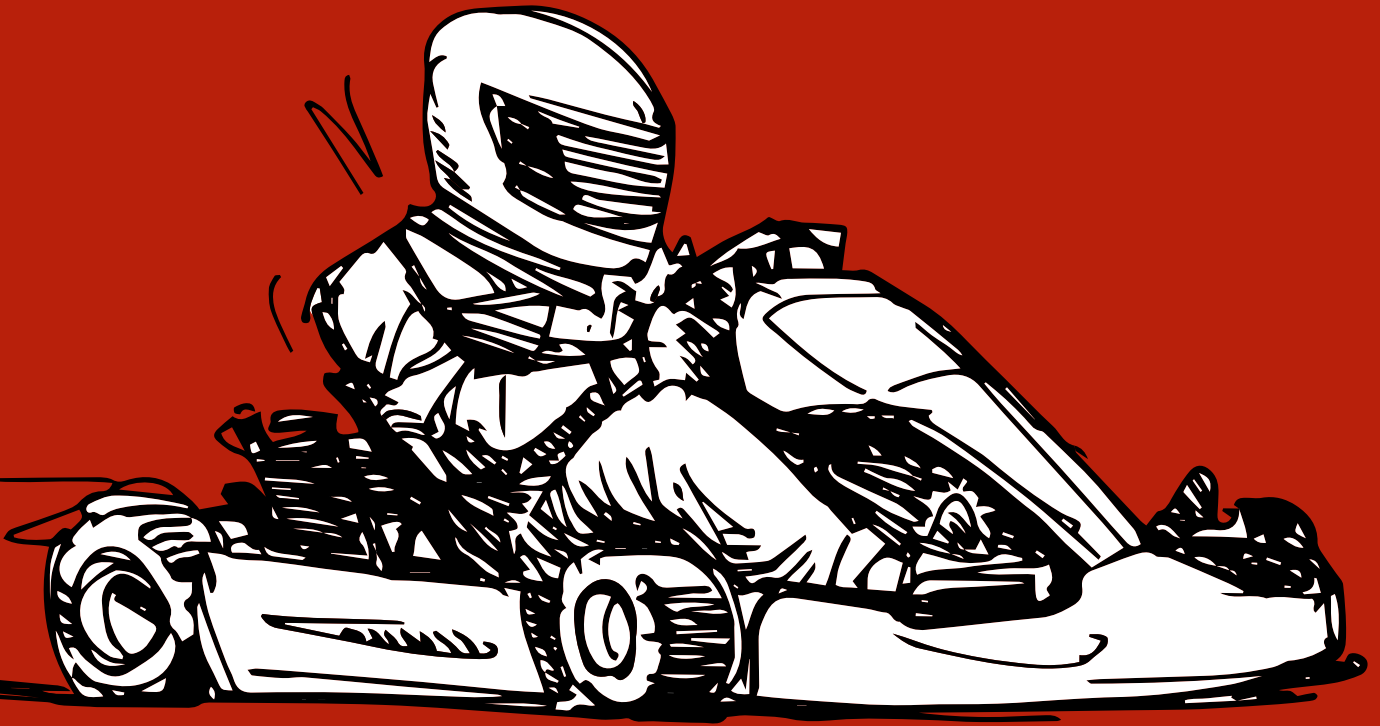
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?
Problem solving, Mathematics and Physics

HOW DOES YOUR JOB CHANGE THE FUTURE?

It creates new technologies which will reduce casualties in armed conflict

Tilly

Dispensing Optician

WHAT DID YOU WANT TO BE AT AGE 10?
A Teacher

WHAT IS YOUR CAREER NOW?
Optics

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?
The technology we use and software used to make optical lenses is amazing! It can get results for patients that are so tailored that no two will have the same.

FUN FACT ABOUT YOUR JOB
I once served Marvin from the band JLS

BEST BIT OF JOB
Being able to help those who have no family to help them.

WHAT JOB CHALLENGES DO YOU FACE?
Difficult customers and dilemmas when trying to help people.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

English, maths, biology. Customer service, flexibility, patience and confidence.

HOW DOES YOUR JOB CHANGE THE FUTURE?

Able to give people the gift of sight! Children literally see their Mum & Dads for the first time, it's magical!

Maurice

Principal Software Engineering Manager & Principal Product Owner

WHAT DID YOU WANT TO BE AT AGE 10?

I wanted to be a Model or Politician when I was 10 but was not clear on what the skill requirements would be. .

WHAT IS YOUR CAREER NOW?

I work in Engineering as as a Principal Software Engineering Manager and Principal Product Owner. Engineering allows me to work with diverse teams to solve important problems and deliver incredible products..

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. A Product Owner is responsible for managing the software product to ensure that it satisfies customers.

FUN FACT ABOUT YOUR JOB

I need to have good engineering and technology skills to coach, motivate and inspire our teams. I need to be passionate about the product and the consumers. I always model good working behaviours and inspire my team for success.

BEST BIT OF JOB

I get to work with highly intelligent 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 to use different energy sources.
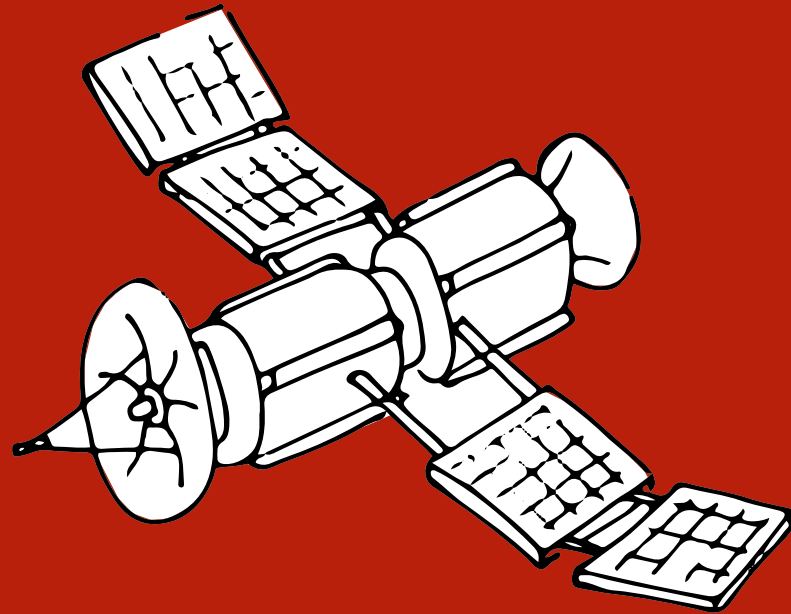
WHAT JOB CHALLENGES DO YOU FACE?

You never know how consumers will use or react to the product. We are always changing our products as the future changes. A lot of fun!

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

English, Maths and Computing are important subjects to study to become an Engineer. 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 CHANGE THE FUTURE?

My job changes the future by creating technology to solve problems that people care about.

Darren

Optical Assistant

WHAT DID YOU WANT TO BE AT AGE 10?

I had no idea what I wanted to be aged 10

WHAT IS YOUR CAREER NOW?

Optical Assistant

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I use a computer system at work everyday
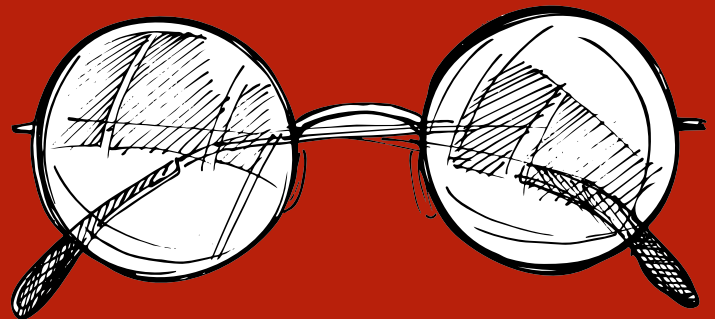
FUN FACT ABOUT YOUR JOB

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

BEST BIT OF JOB

Helping to fix people's glasses

WHAT JOB CHALLENGES DO YOU FACE?

Challenges don't phase me!
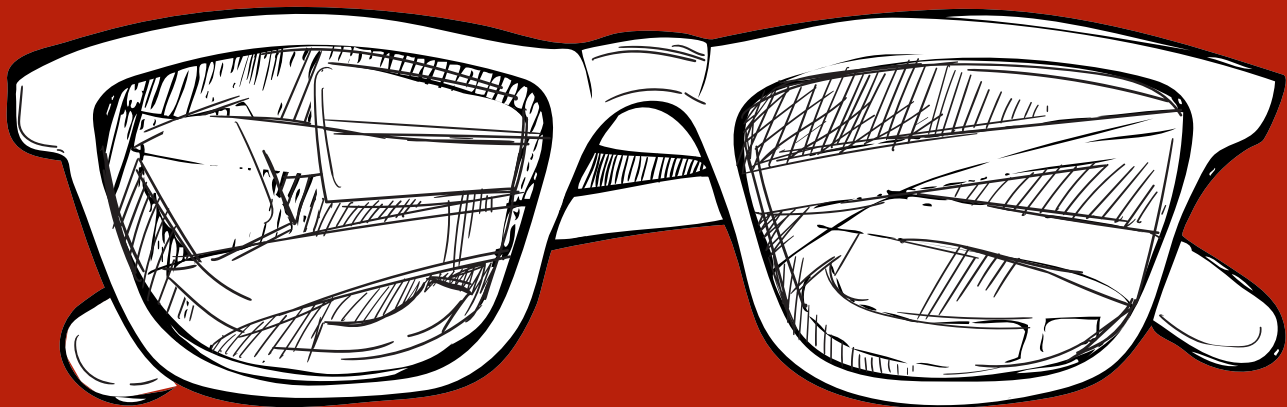
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

A willingness to learn, confidence and professionalism

HOW DOES YOUR JOB CHANGE THE FUTURE?

We have a brand of glasses called rewear, these glasses are made from six plastic bottles, changing the way glasses could be made in the future

Alex C

Lab Technician

WHAT DID YOU WANT TO BE AT AGE 10?
An Actor

WHAT IS YOUR CAREER NOW?
Lab Technician /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 good knowledge to operate.

FUN FACT ABOUT YOUR JOB
Lab Technician: Lenses go through three machines in the lab before being ready to fit.
Actor: I've filmed scenes for an AppleTV series with Callum Turner and Austin Butler.

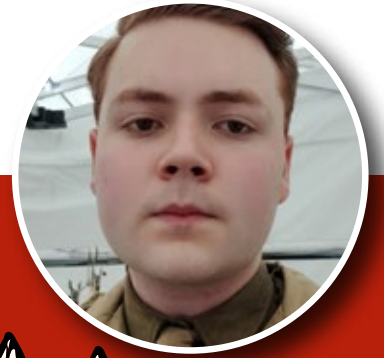### BEST BIT OF JOB
Lab Technician: Being able to come in for each shift and work with someone different, and bounce ideas and knowledge off each other.
Actor: Being able to work on the set of a Second World War Air Base / B17.

WHAT JOB CHALLENGES DO YOU FACE?
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?

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.

HOW DOES YOUR JOB CHANGE THE FUTURE?

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.

Beth

Pre Reg Optometrist

WHAT DID YOU WANT TO BE AT AGE 10?

A Zoo Keeper

WHAT IS YOUR CAREER NOW?

I am an Optometrist. This means that I check the health of people's eyes and see if they need any glasses.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I use a special computer called an OCT scanner which allows me to see inside your eyes (a bit like having an X-Ray).

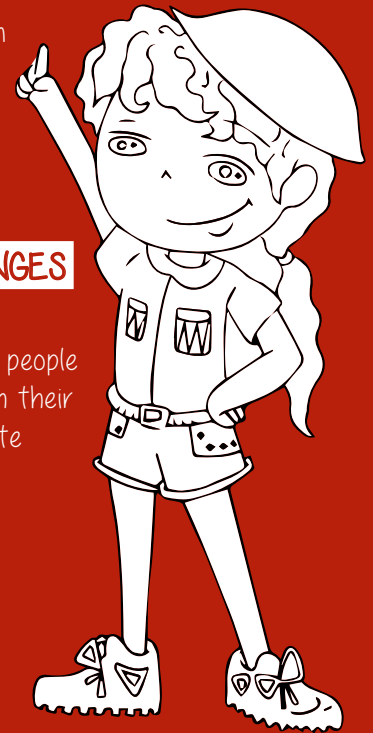### FUN FACT ABOUT YOUR JOB

The eye is the only place in the body through which you can see arteries and veins without having surgery!

BEST BIT OF JOB

I love to see the smile on children's faces when they get glasses for the first time and can see clearly.

WHAT JOB CHALLENGES DO YOU FACE?

Sometimes I have to tell people they have a problem with their eyes and that can be quite difficult.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

You need to be good at talking to people and have a good knowledge of Human Biology.

HOW DOES YOUR JOB CHANGE THE FUTURE?

My job helps to stop people needing to go to hospital if they have a problem with their eyes. This means that hospitals can keep appointments free for people who are really poorly.

Matthew

Air Show Inspector

WHAT DID YOU WANT TO BE AT AGE 10?

I have always been interested in aircraft. When I was younger, I hung around airfields watching aircraft, and loved Geography, because I wanted to see the world.

WHAT IS YOUR CAREER NOW?

I have primary responsibility at air show events, ensuring that regulations are followed and that the aircraft involved are flying safely, being piloted correctly, and that the public and all involved, ensuring passengers and spectators, are safe.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Knowledge of the systems used by pilots to navigate and follow aircraft are key to my role, all involving elements of Technology and Engineering.

FUN FACT ABOUT YOUR JOB

My work experience was at a company that maintained vintage aircraft. My first job, on day one, was to push all 30 of the aircraft out of the hangar and sweep it clean. Oh, and make the tea on time!

BEST BIT OF JOB

The variation of tasks and the ability to now use years' of knowledge and experience to help guide the regulated community safely forward.
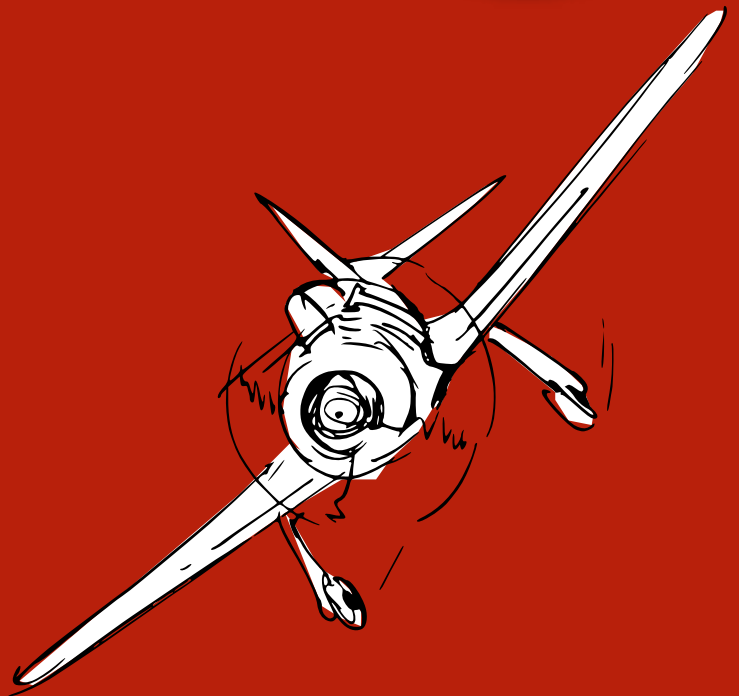
WHAT JOB CHALLENGES DO YOU FACE?

The biggest challenges and barriers rolled into one-having to convince an employer that I was suitable for a job when (certainly in the early days) I had little experience. Evidenced determination I believe helped me open doors though.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths skills are important in order to inspect the navigation, direction and performance of aircraft. Attention to detail and quick decision-making skills are important when deciding that safety is being considered and regulations followed.

HOW DOES YOUR JOB CHANGE THE FUTURE?

Conducting and inspecting air shows helps inspire the next generation to get involved in aviation, just like I did!

Stuart

Radio Spectrum Engineer

WHAT DID YOU WANT TO BE AT AGE 10?

I loved learning how things worked and problem-solving. My favourite part of school was getting to conduct experiments in Science lessons, making me want to become an Engineer or Scientist.

WHAT IS YOUR CAREER NOW?

I work with the design and application of devices that use wireless signals. My role is involved with devices that use radio frequencies for many different applications, such as for communication and navigation on aircraft, and between aircraft and airports.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My job directly involves both Engineering and Technology. I work as an Engineer designing systems that involve new technologies.

FUN FACT ABOUT YOUR JOB

I worked for a company during university summer holidays programming a product sponsored by one of the Dragon's Den dragons! It made me realise how much programming is involved in electronics and tech.

BEST BIT OF JOB

I love the variety in my job. I work in many areas of aviation, from commercial aircraft to drones. I have also developed knowledge of a variety of systems, from GPS to radars. I learn something new everyday.
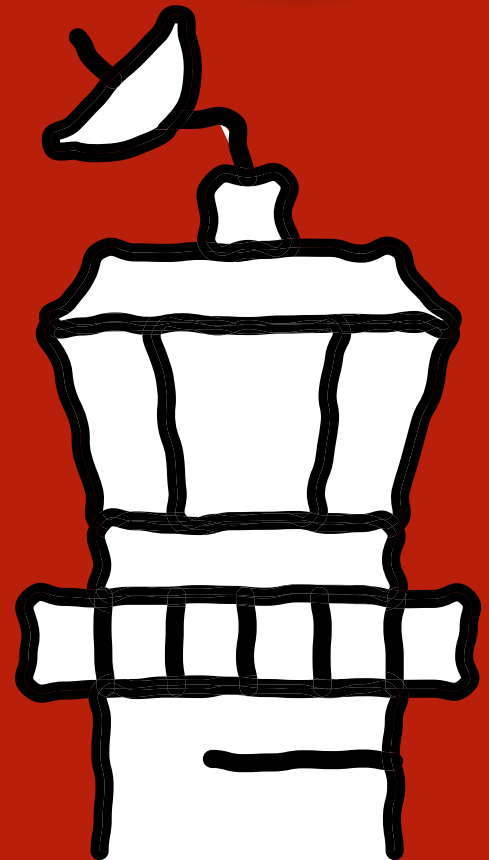
WHAT JOB CHALLENGES DO YOU FACE?

Developing my communication skills so that I can articulate complex engineering problems to my peers and managers. Presenting did not come naturally to me and it took a lot of practice.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths and Physics are most important to my role, as well as knowledge of electrical circuits. Analytical thinking and attention to detail are also crucial.

HOW DOES YOUR JOB CHANGE THE FUTURE?

My job connects people, allowing them to communicate, as well as enabling new services and practices in aviation. This is an ever-changing area, just like all technology!

Vicky

IT Service Desk Team Leader

WHAT DID YOU WANT TO BE AT AGE 10?

When we got our first computer at home I was interested to learn more about using it, so I have always had an interest in Technology and Computing.

WHAT IS YOUR CAREER NOW?

I manage a team of six IT Service Desk Analysts' who support our colleagues with technical support for computing and technology. Colleagues request our support to help resolve issues with computers, from networks to software and hardware. We are also responsible for creating new starter accounts, deleting accounts, creating mailboxes, granting access to documents and applications to enable our colleagues to carry out their roles.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My role is directly involved in Computing! My area of expertise is Information Technology Support and I work with computers and technology every day.

FUN FACT ABOUT YOUR JOB

I spent a lot of time with my nan in the school holidays and we did a lot of baking. I enjoyed Home Economics at school.

BEST BIT OF JOB

I love working in IT and still learn all the time. Every day is different but it is also rewarding. Being able to develop a team as they start their IT Careers and solving issues for our customers that allows them to perform their own jobs and add value to the organisation.

WHAT JOB CHALLENGES DO YOU FACE?

Currently my biggest challenge I would say is managing a remote team. Previously I managed the team in the office and we all sat in the same space and shared knowledge, now we've had to learn how to do this remotely.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Knowledge of Computing and Information Technology is central to my role. Being familiar with software and hardware is essential. I also have to collaborate in supporting colleagues when working with computers, so communication and good customer service is key.

HOW DOES YOUR JOB CHANGE THE FUTURE?

By working directly with computers, these are updating and changing all the time. With new technology comes new learning, and I have to stay up-to-date with these to support my company.

Tejas

Design and Certification Specialist

WHAT DID YOU WANT TO BE AT AGE 10?

When I was young, I loved playing with key and battery-operated toys, remote controlled cars and trains. Every toy I had did not last for long because of my curiosity of knowing how it worked made me want to become a Scientist or an Engineer!

WHAT IS YOUR CAREER NOW?

I started my career with aero engines and after completing many years working with them in many different roles my affection with aero engines grew. I was interested in how to design them safely, how to make them safe, how to operate them safely and how to maintain them safely. I realised that one way to influence all of these areas is by engaging with the regulatory aspects that tells the designers, manufactures, operators and maintenance organisations how to do everything to maintain the safety of aero engines. So, I decided to focus on regulation and ended up in my current role.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

My role influences the engineering and technology that goes into engines, by ensuring that they operate safely. Working with manufacturers and operators means that I work directly with the engineering and technology involved in aero engines.

FUN FACT ABOUT YOUR JOB

My first job was to design components for a Jet Engine! They are critical components that spin 10,000 times a minute and are surrounded by temperatures of up to 700 degrees Celsius!

BEST BIT OF JOB

I love the fact that everyone I work with has only one key goal and that is to make aviation safer.

WHAT JOB CHALLENGES DO YOU FACE?

Remaining focused and motivated during ups and downs of real life is always a challenge. I overcame this through discussions with colleagues and family and by maintaining an active lifestyle.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

My Engineering, Physics and Maths skills need to be strong when working with aero engines and their design. There is also a creative element to this type of work.

HOW DOES YOUR JOB CHANGE THE FUTURE?

I work with the development of aero engines, which are improving all the time. Who knows how fast aircraft will travel in the future, and where they will go?

Maria

International Managing Director

WHAT DID YOU WANT TO BE AT AGE 10?

My grandad and my dad are both engineers and I could see how much they could do with their hands and their intellect. I wanted to be like them plus I wanted to fly and to learn how flying worked.

WHAT IS YOUR CAREER NOW?

Starting with an Aeronautical Engineering degree, I worked in the Traffic Control Tower at an airport. I love aviation and will always work in this sector. I started with more technical jobs and moved into project management and managerial jobs to be able to influence strategy and direction in the aviation sector. I work to improve aviation standards around the world and to inspire young generations to work in aviation.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

With my background in engineering, I still use the knowledge and skills I learned and apply them in my current role. I use computing and technology to communicate, oversee regulations and work on a global scale.

FUN FACT ABOUT YOUR JOB

Since my job is in an amazing sector that allows you to travel, I get to experience other cultures and contribute to the United Nations Sustainable Goals (end poverty and hunger between them).

BEST BIT OF JOB

My company's international purpose is to improve aviation standards around the world, so this is an amazing thing to do, as aviation brings people together and supports economic growth around the world. It definitely drives my energy and enthusiasm and feels extremely purposeful.

WHAT JOB CHALLENGES DO YOU FACE?

As a woman engineer working in a male-dominated sector, being confident about my abilities and respectful of other cultures has always allowed me to do my job properly.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

I have to use my business knowledge and skills to lead the growth of the company. Effective communication skills support this, as well as when representing the company. Literacy and Maths contribute to all aspects of business and communication.

HOW DOES YOUR JOB CHANGE THE FUTURE?

I strive to lead change and adapt the company to positive change for the future.

Anna

Human Factors Programme Specialist

WHAT DID YOU WANT TO BE AT AGE 10?

I learned to always keep my options open and continue developing my knowledge and skills, because I wasn't sure what I wanted to do after school.

WHAT IS YOUR CAREER NOW?

I explore human behaviour, focusing on how people respond and act in an emergency situation. This supports my company to make decisions through engineering, training, and regulations. I also work on how products and systems are designed to suit people based on their behaviours.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Designing equipment for organisations based on how people behave and respond means that I act as an engineer in coming up with these designs, and of course I use technology in order to do this. I also communicate with people a lot of the time using technology.

FUN FACT ABOUT YOUR JOB

After high school I completed a 'GAP' year and worked in a school for disabled children in Dorset. I also travelled abroad by myself which was a huge learning experience when aged 18/19 yrs.

BEST BIT OF JOB

It is varied and there are lots of opportunities for all sorts of different activities, dealing with a wide range of people, and some travel to interesting places.

WHAT JOB CHALLENGES DO YOU FACE?

Sometimes being a woman in a predominantly male industry has been a challenge, and I think my military training helped with being able to put view points across and being confident in my own abilities.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Knowledge of Psychology is central to my job, along with creative thinking and reasoning skills. Use of language is also important when often communicating with others and interpreting their responses.

HOW DOES YOUR JOB CHANGE THE FUTURE?

In working with human behaviour, which is always changing as society changes, my job lines up with how the future is ever-changing.

Kim

Acoustic Consultant

WHAT DID YOU WANT TO BE AT AGE 10?

At 10 I wanted to be all kinds of things and changed my mind all the time. For a while I wanted to be a carpenter so I could make things out of wood!

WHAT IS YOUR CAREER NOW?

Now I work in acoustics. This means I look at sound and vibration and the impact it has on the people and things around us.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

When someone wants to build something new, like a road, it is my job to work out how much louder or quieter this will be for the people who live nearby. I use Maths, Physics and my computer to figure this out.

FUN FACT ABOUT YOUR JOB

Sound is everywhere so we work in lots of different places. Sometimes this can be very exciting like on movie sets! We even measure underwater to see how sound disturbs animals like dolphins or fish.

BEST BIT OF JOB

On some days I will be outside measuring noise, and on other days I will be inside on my computer. It is the best of both worlds!

WHAT JOB CHALLENGES DO YOU FACE?

Wind and rain can be very noisy and can make my job difficult when I want to measure how loud something is outside. On the plus side, it means I don't have to go out in the rain very often!
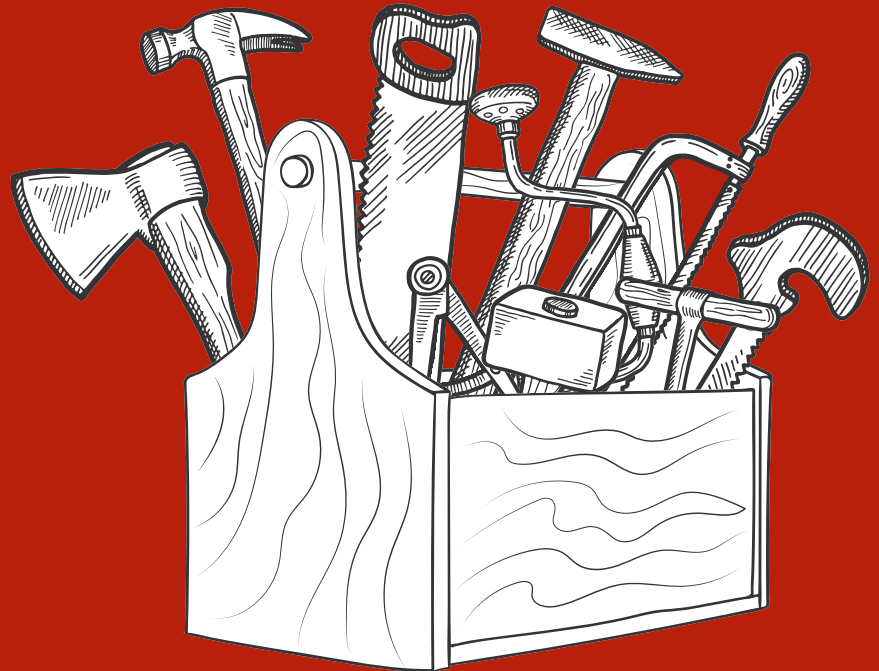
SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Maths, Physics and Computing are really important for my job. I also have to be able to talk to different kinds of people and write about what I have found out.

HOW DOES YOUR JOB CHANGE THE FUTURE?

When things are too noisy it isn't very nice and can even be bad for your health. My job is to make sure the future is a nicer sounding place, so that everyone is happy with what they can hear around them.

Amy

Project Manager

WHAT DID YOU WANT TO BE AT AGE 10?

When I was younger I was in the Air Cadets, so that meant that from a young age I was involved in aviation and wanted to work within it in the future.

WHAT IS YOUR CAREER NOW?

In my role, I work in project management, where I deal with people and challenges when running projects of all types. I find out what the team working on the project wants to achieve, agree timescales and costs, monitor the progress, and see a project all the way to its successful completion.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

I use specialised software, including spreadsheets, to plan, cost and monitor project progress. I also use technology to communicate in many different ways.

FUN FACT ABOUT YOUR JOB

Stopping a project for the right reasons is just as much of a success as completing a project.

BEST BIT OF JOB

I enjoy the rush of dealing with challenges and that I get to interact with a wide range of experts and learn about all aspects of the organisation.

WHAT JOB CHALLENGES DO YOU FACE?
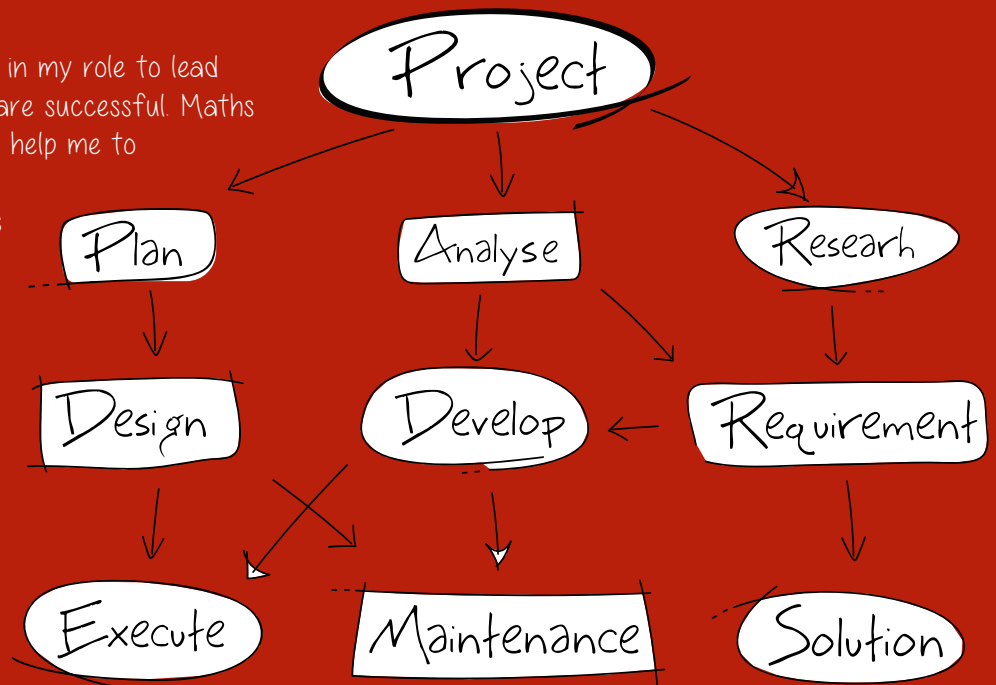
Managing different people's wants and needs, and finding solutions that everyone agrees with so that we can progress the project.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Strong leadership skills help me in my role to lead projects and ensure that they are successful. Maths skills and verbal communication help me to oversee and support people working on all sorts of projects within my company.

HOW DOES YOUR JOB CHANGE THE FUTURE?

I collaborate and support on projects that help develop the company to make changes for the future.

Project

Plan

Analyse

Research

Design

Develop

Requirement

Execute

Maintenance

Solution

Ed

Head of Environmental Research and Consultancy Department

WHAT DID YOU WANT TO BE AT AGE 10?

I loved music and art for self-expression and creativity, and I played piano and drums in bands, as well as using computers to create music and manipulate sounds, so I think I wanted to be in a band!

WHAT IS YOUR CAREER NOW?

I advise and consult with the various departments across aviation to help improve the environmental impact of flight, including noise pollution. With a background in Acoustics, I support in reducing the environmental impact of flight travel.

HOW IS YOUR CAREER CONNECTED TO COMPUTING AND OR ENGINEERING?

Solutions to environmental issues involve both Computing and Engineering, with technology developing to come up with more sustainable ways to travel, and engineering designing new features to aircraft to reduce environmental impact.

FUN FACT ABOUT YOUR JOB

I worked part-time at a retail and trade painting and decorating supply shop as a teenager. It helped me realise I enjoyed interacting with people and helping them using the technical knowledge I'd built up.

BEST BIT OF JOB

I work with technical directors and innovators, who instigate change in the world with good values and integrity that inspire me.

WHAT JOB CHALLENGES DO YOU FACE?

Sometimes self-doubt and perfectionism can get in the way of growth and progress.

SUBJECTS, KNOWLEDGE & SKILLS NEEDED?

Knowledge and skills in Maths and Physics will help in understanding the world we live in and the environmental issues we face. The analytical thinking skills that go along with these subjects will also help in this role.

HOW DOES YOUR JOB CHANGE THE FUTURE?

With climate change, pollution and the growth of towns and cities being a global issue, my role in Environmental Research helps to come up with more sustainable and less disruptive ways to travel the world, without damaging it.