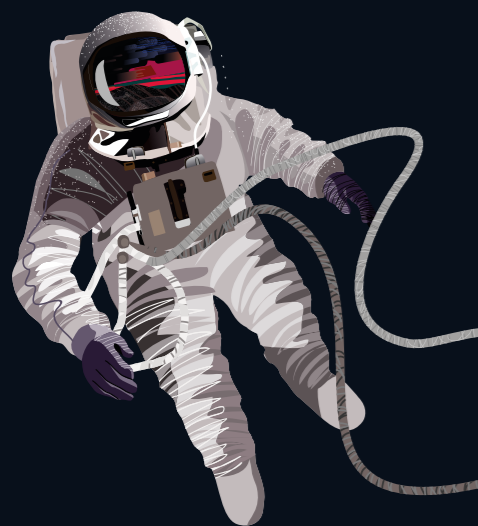


SPACE ACADEMY FUTURE ME

From when I was aged 10 to my
career in Space: A careers collection
for primary schools

The Future Isn't What It Used To Be!



Thanks to all the people who contributed to the production of this book.

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Introduction

The examples of Space Careers in this book were provided by Space STEM Ambassadors from across the South East of England. STEM stands for Science, Technology, Engineering and Mathematics and all the examples in this book are about people who work within the Space Sector.

Around 50,000 people work within the Space Sector across the UK and over 1,000,000 around the world. We asked our contributors what they wanted to be when they were aged 10, so you can view all the different types of jobs they thought they may like to be, such as a fighter pilot or an inventor, we hope you enjoy seeing the comparison to what they do now!

This book was named 'Future Me' because it is hard to imagine what the future holds for anyone in today's ever-changing world. Give some thought to what you may want to do or become!

Generally, the Space STEM Ambassadors did not know what they wanted to do or become and each share a fun fact for you to enjoy, for example Davide who works on creating space instruments is obsessed with LEGO® and he admits he still plays with it!

We are sure you will enjoy finding out about the diverse roles and opportunities that are available within the space industry.



Alessio

Higher Engineer

CAREER AT AGE 10?

I wanted to be an inventor. I always enjoyed building things with scrap material and took things apart to see how they worked - sometimes my mom wasn't very happy about that!

AREA OF SPACE?

I work on what can be called "quantum" technology for space. I do research in the field of so-called atomic clocks. These clocks are not mechanical, as they exploit the interaction between atoms and electromagnetic radiation. I work on making these robust and compact for a space launch.

CAREER NOW?

I mainly use mechanical engineering to create a design and simulate it to see if it would survive a space launch. Then, I build what I designed and test it in a laboratory. However, I also use a lot of physics to make sure what I design is going to work in space.

FUN FACT

When I was a kid I used to live near an active volcano - Mount Etna in Sicily. It is one of the tallest active volcanos in Europe. It was perfectly normal to see the glowing red lava from my house balcony (quite far away anyway).

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

For me it is about the never-ending learning process that is part of my job. Almost every day I learn something new about space, or about the physics. It is never boring and I get to work with many capable individuals.

CHALLENGES?

There are many challenges, mostly related to the fact that I am working on new technology. Sometimes, things don't work as expected and I need to repeat some experiments (and study more the theory) to find the right solution to a specific problem.

SPACE FUN FACT RELATED TO MY SPACE JOB

I am working on different projects funded by the European Space Agency. One day they will all contribute to an atomic clock that could be used for missions like studying the Earth's gravity and improve spacecraft navigation. Future astronauts might use these clocks to navigate in outer space!



Yasmin

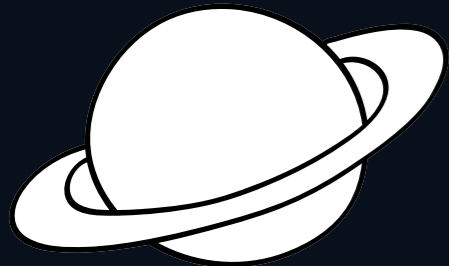
Senior Space Recruitment Consultant

CAREER AT AGE 10?

I love animals so I wanted to be a vet.

AREA OF SPACE?

I work for a company who recruit talented engineers for US space companies. My focus is on roles such as testing engineers, production, manufacturing and quality engineers.



CAREER NOW?

Science as we work with a lot of clients who work on scientific missions e.g. planet exploration, lunar rovers and asteroid mining. Also engineering as I speak with engineers daily. Technology too as we are working in a fast-paced industry where the tech is constantly evolving.

FUN FACT

I studied to become a solicitor before I entered the space industry.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

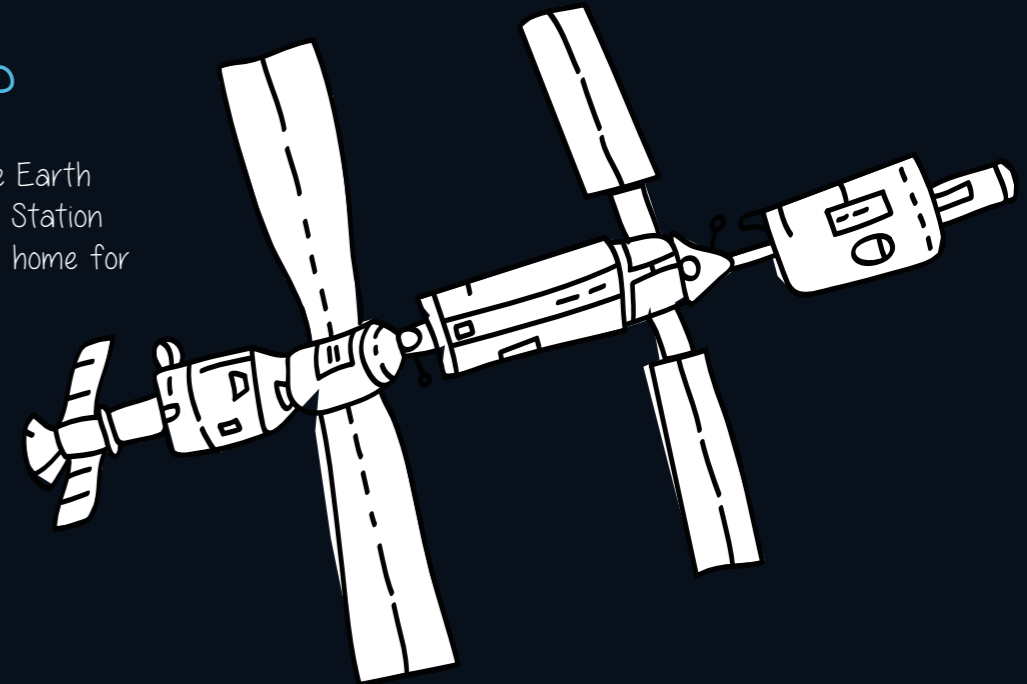
I get to work in an industry that is so much bigger than anyone initially realises. Satellites and satellite data form a part of our everyday lives such as the internet, making a phone call, farming, predicting weather and navigation. The possibilities are endless!

CHALLENGES?

The industry is growing at a rapid rate but there are not enough people to work in the jobs for the demand. A lot of people think that working in the space industry is not accessible but space is for everyone.

SPACE FUN FACT RELATED TO MY SPACE JOB

There is a satellite orbiting the Earth called the International Space Station (ISS), this is like a giant space home for astronauts from different countries who live and work together. It's as big as a football pitch and travels at speeds of 17,500 miles per hour!



Brian

Technical Services Director

CAREER AT AGE 10?

I wanted to either be an artist, a rockstar or an astronaut.

AREA OF SPACE?

I work within the new space sector, developing launch vehicles to provide microgravity and space as a service, this is both drones for terrestrial micro-g testing and rockets for space environments. This helps researchers unlock many experiments by removing gravity, and industries validate their designs for in-space use, making space more sustainable and avoiding unnecessary damage caused by space debris.

CAREER NOW?

I use physics, chemistry, biology, maths, technology focused areas such as coding and ICT, and engineering disciplines. Effectively, I use STEM every working day.

FUN FACT

In my younger days I was in a signed indie band, playing drums and rocking out regularly whilst also trying to build a freelance graphic design business, so I have kind of fulfilled my aspirations as a 10yr old in some way or another.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

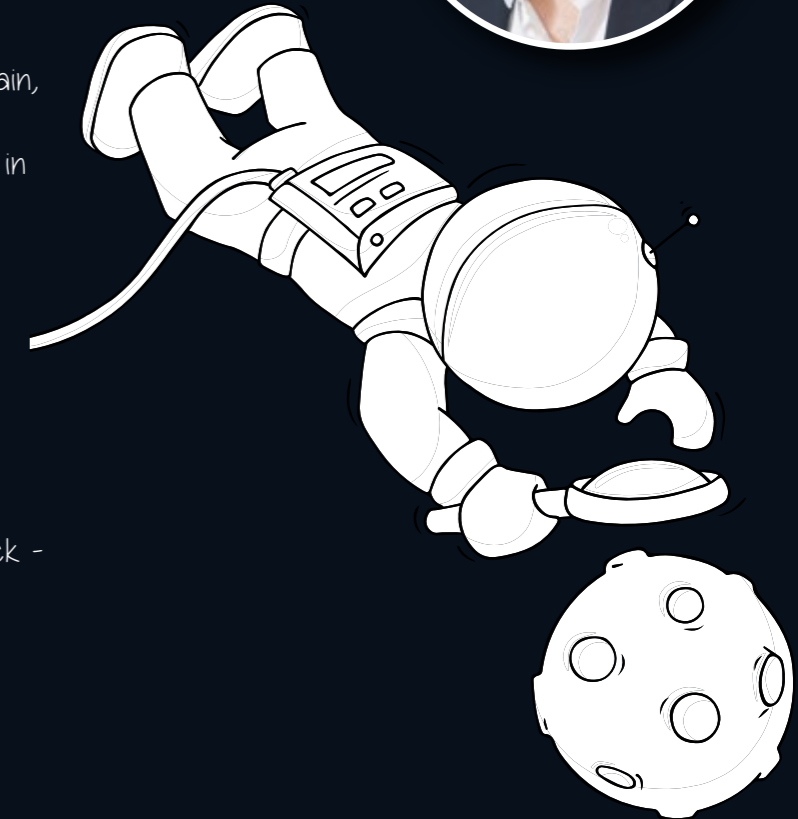
Speaking with so many people so passionate about what the space sector can bring humanity. It can open so many doors and unlock many secrets of fundamental science. Plus it's just really cool!

CHALLENGES?

Space is quite unexplored, and when discussing the sector with colleagues outside of your domain, there is an educational hurdle to help them understand the amazing opportunities research in space can bring.

SPACE FUN FACT RELATED TO MY SPACE JOB

When I visit schools or other establishments to talk about space research and rockets, I am referred to as 'Rocket Man Brian'. I've also travelled with work roughly the same distance from the Earth's surface to the Moon and back - and that's a long way!



Catherine

Planetary Scientist

CAREER AT AGE 10?

I wanted to be a weather girl.

AREA OF SPACE?

I research Mars! I use satellites from the European Space Agency and NASA to help understand what is happening in space surrounding Mars during dust storms.

CAREER NOW?

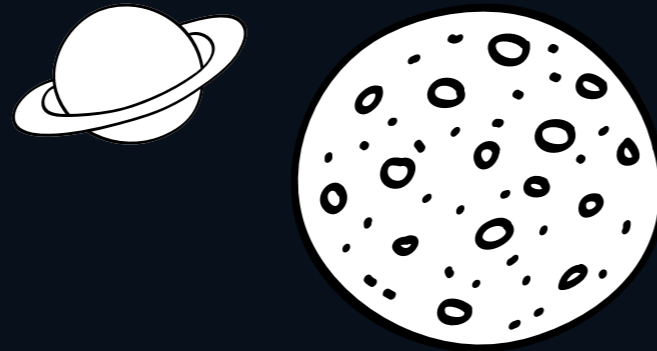
I use a lot of science, especially physics, geography and geology, as well as maths and computer science.

FUN FACT

I did a skydive with my dad (aged 64) to raise money for Ovarian Cancer Action in memory of my Mum - I was sick in the air!

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

Being able to travel around the world to conferences and meetings. I've got international colleagues and being able to go abroad to meet them is so exciting and a great way to explore new places!

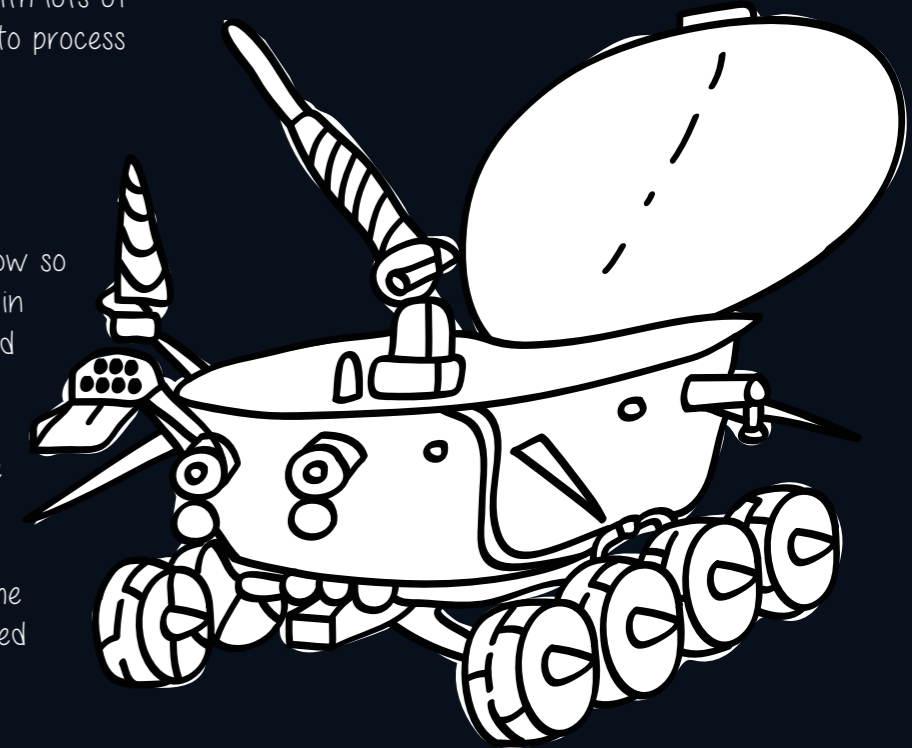


CHALLENGES?

I do a lot of coding and computer science, which I had never done before. I found it quite difficult to learn a lot very quickly as I work with lots of data from space missions. I use coding to process and analyse the data for my research.

SPACE FUN FACT RELATED TO MY SPACE JOB

Sometimes the dust storms on Mars grow so large, that the entire planet is covered in one singular dust storm! These are called global dust storms, and can last several months. When these happen, you can't see the surface of Mars at all as there is so much dust in the atmosphere. The storms can be dangerous, the last one in 2018 caused the death of the Opportunity rover when the dust covered its solar panels.





Head of Contract

CAREER AT AGE 10?

Fighter Pilot

AREA OF SPACE?

I am lucky to work across most areas of the space industry but mainly with companies involved with satellites.

CAREER NOW?

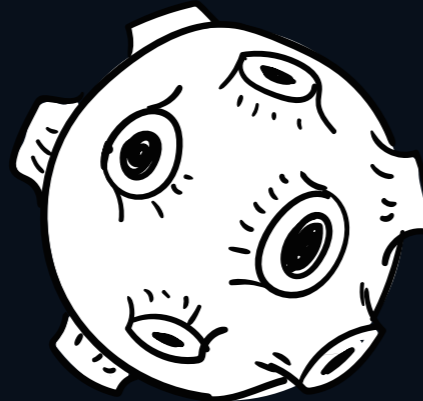
A lot of my job involves discussing margins, percentages, figures etc so maths is certainly a major part of my job, but I deal with and speak to people working in every area of STEM daily.

FUN FACT

I own a first edition collection of Harry Potter books.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

Getting to speak and meet truly incredible people every day, who are working on not only cool things in space but also there is an eco-system really focused on advancing space to help on earth.

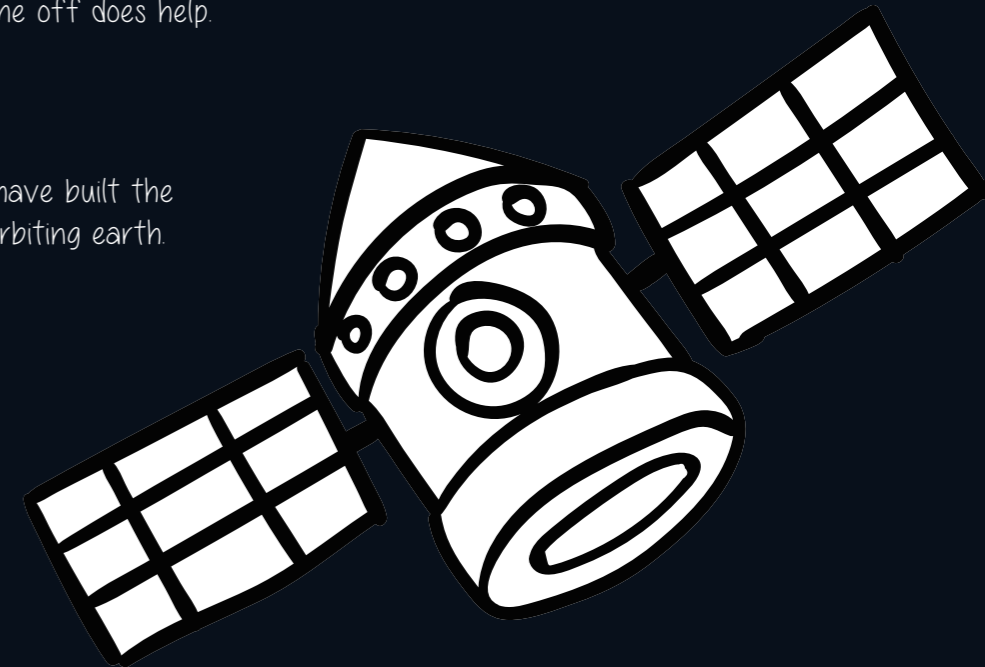


CHALLENGES?

There is always something to do, so it can sometimes be tough switching off as you can easily find yourself constantly working. Keeping as organised as possible and having time off does help.

SPACE FUN FACT RELATED TO MY SPACE JOB

I have placed people in roles who have built the software on a satellite currently orbiting earth.



Davide

Lead Analysis and Verification Engineer

CAREER AT AGE 10?

I am pretty sure I wanted to be a firefighter.

AREA OF SPACE?

My job focuses on space instruments design, analysis and testing. My organisation has been involved in more than 200 space missions ranging from earth observation and environmental monitoring to astronomy and planetary exploration. I am currently working on a space telescope to study planets outside our solar system.

CAREER NOW?

Engineering, physics and mathematics are the main subjects I apply on a daily basis.

FUN FACT

I have never stopped building LEGO® and I still play with it!

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

I love working with people from all around the world on missions which will help us understanding and caring for our planet as well as unravelling the secrets of the universe.

CHALLENGES?

One of the most complicated aspects is to make sure that all the different disciplines involved in the design of a space mission work nicely together. At times they have contrasting requirements and it is not easy to find the right balance.

SPACE FUN FACT RELATED TO MY SPACE JOB

I am always fascinated by the concept that looking at distant objects in the universe is like looking back in time. Right now, we see galaxies far away as they were millions of years ago due to the amount of time their emitted light takes to reach us.



Rebecca

Space Business Partner

CAREER AT AGE 10?

The sixth member of the Spice Girls.

AREA OF SPACE?

I work with companies who either build vehicles to launch into space, such as satellites or rockets, or I use data from satellites for technology on earth. I help the companies solve their hiring challenges acquiring the best people to work for their companies.

CAREER NOW?

It helps me to understand the new technologies that some of the companies are developing, along with the engineering capabilities they require and the science behind this - so a bit of everything helps!

FUN FACT

I used to play the drums and always wanted to be in a rock band!



WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

That we are working in an industry that's overall purpose is to better understand our planet and to make our planet a better place. The technology that is being created is amazing and every day we get to learn something new along with meeting some incredible people within the space industry.

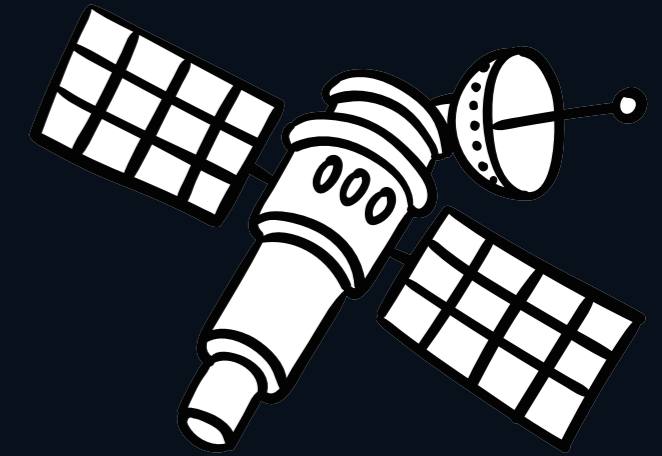
CHALLENGES?

Perception is still that space is for 'rocket scientists' - this is not the case, space is for everyone and there is a job for every capability and purpose in every space company. We want to ensure that space is accessible to everyone and we will continue to drive the message as much as we can!



SPACE FUN FACT RELATED TO MY SPACE JOB

Some of the satellites currently orbiting Earth are made from using every day household items!



Nikki

Principal Mission Concept Engineer

CAREER AT AGE 10?

Parachute Instructor for the RAF.

AREA OF SPACE?

I work in Spacecraft mission design.

CAREER NOW?

Physics, maths, engineering and chemistry.

FUN FACT

My favourite hobbies are jam skating and aerial hoop.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

Getting to meet so many creative and innovative people.

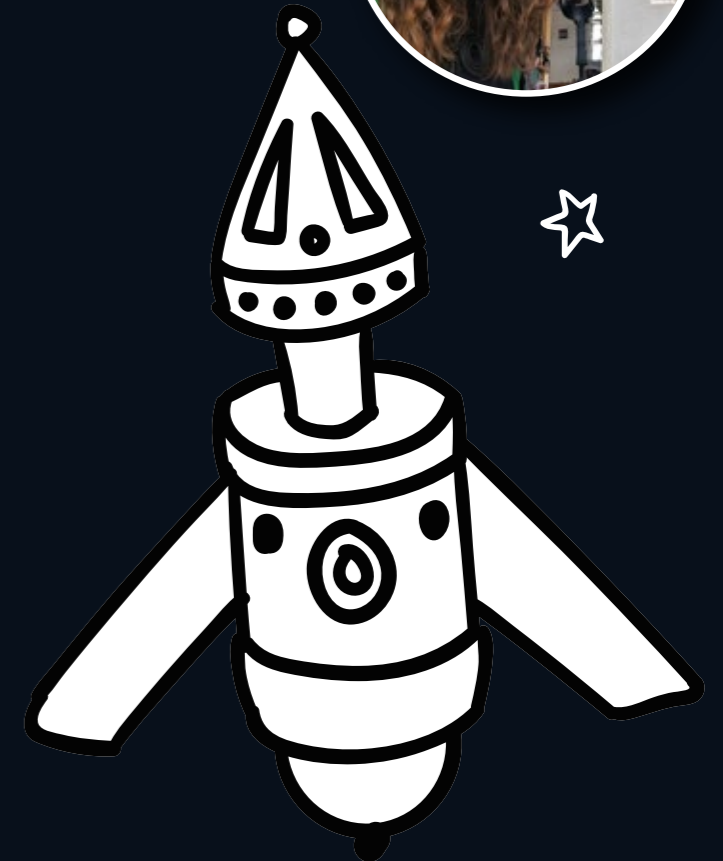


CHALLENGES?

Trying to stay ahead with innovation and creative thinking.

SPACE FUN FACT RELATED TO MY SPACE JOB

It only takes a space debris object 1cm in diameter to have enough energy to destroy a satellite!



Maxime



Launch Manager

CAREER AT AGE 10?

Aircraft Pilot

AREA OF SPACE?

I am responsible for the launch strategy at my company and I am the leader of integration missions on launch pads.

CAREER NOW?

For the engineering side: Mathematics, physics, manufacturing and electrics.

FUN FACT

I work with Space X regularly.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

It's a dynamic world with a long history of spaceflight. I am the last one to touch spacecraft before they become stars in our sky.

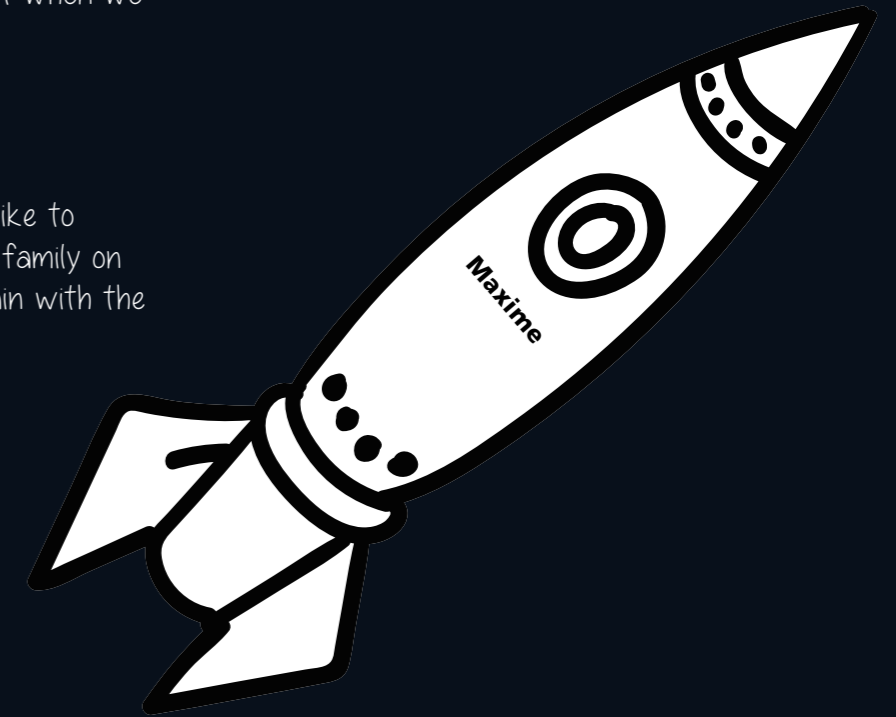


CHALLENGES?

Spacecraft are very complex systems that cannot be repaired after they are launched so we have to make sure that everything is perfect when we bolt them to the rocket.

SPACE FUN FACT RELATED TO MY SPACE JOB

Maybe not fun but my little secret: I like to write down my name and those of my family on each spacecraft I launch so they remain with the stars!!!



Matt

Principal Space Recruitment Consultant

CAREER AT AGE 10?

Footballer

AREA OF SPACE?

I recruit Sales & Business Development Professionals into upstream new space companies - Space Infrastructure and Spacecraft Manufacturing.

CAREER NOW?

Science - to understand the mechanics of different space hardware, the different materials used in space and to help better understand the universe!

FUN FACT

I recruit space professionals for the USA and I used to live in California for four years before I began working for a space industry recruitment company in the UK.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

I get to work in the most exciting, innovative industry with the most cutting-edge technologies and it is all helping impact our climate for the better and is helping to save our planet!

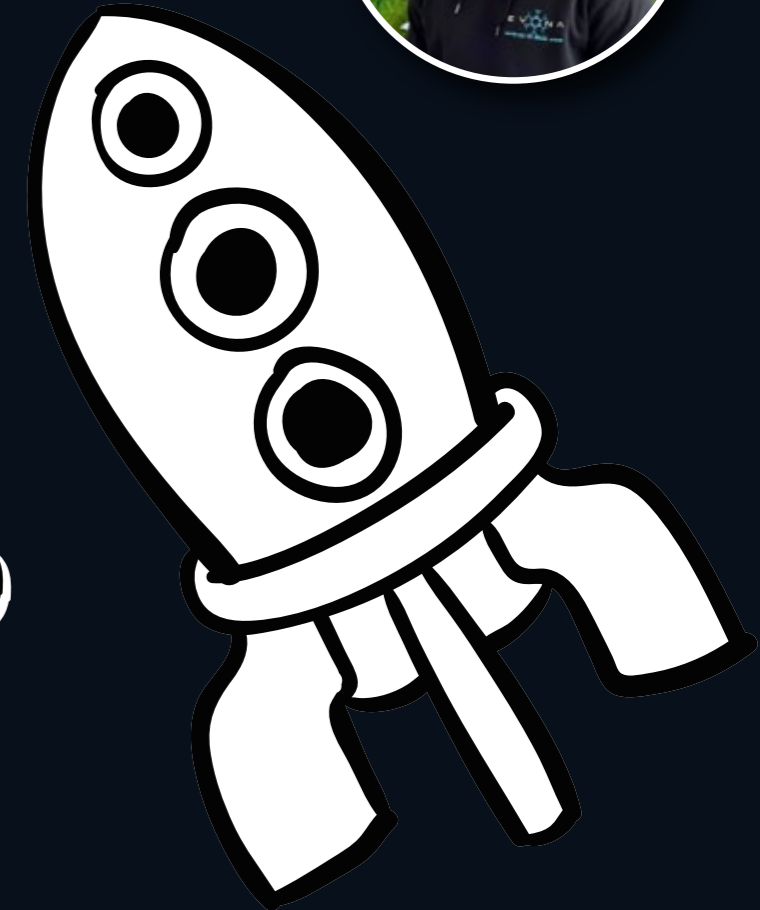


CHALLENGES?

Although, I absolutely love my job, we work long hours to make sure we do a great job for our clients so sometimes we need to take a holiday and relax!

SPACE FUN FACT RELATED TO MY SPACE JOB

I used to love rockets as a little boy and now I am recruiting people to help build and sell them to fly important things up into space!



Raffaella

Head of Satellite Remote Sensing

CAREER AT AGE 10?

Archeologist

AREA OF SPACE?

I work with data acquired by sensors on board satellites. I analyse images that satellites take over the Earth to monitor disasters, track pirate ships, understand the effects of human activities and much more.

CAREER NOW?

I use all STEM subjects! I need science to explain the problems and phenomena I observe, I need math to concisely describe them, I need engineering to propose technological solutions to those problems and, finally, I need technology to develop the solutions I have designed.

FUN FACT

My current house is full with LEGO® but I never played with LEGO® when I was a child. It's never too late to start something fun.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

Looking at the Earth from space is always breathtaking and I can never have enough.

CHALLENGES?

Satellite images are very expensive and you can't waste any single image. The acquisition of images has to be very accurate and requires a lot of planning and coordination.

SPACE FUN FACT RELATED TO MY SPACE JOB

With satellites I can see the trampoline in your garden from 800km in space!



Joe

Team Lead & Principal Recruiter

CAREER AT AGE 10?

Footballer

AREA OF SPACE?

I work in Mechanical Engineering.

CAREER NOW?

Science and physics.



FUN FACT

I love travelling around the world and seeing new places. Hopefully, one day, I will be able to go into outer space and see completely new worlds.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

Recruiting for companies who are doing amazing work to improve life for humanity in the future.

CHALLENGES?

Loads of cool jobs, but not enough people to fill them. We need more young people to enter into STEM subjects and eventually join the industry!

SPACE FUN FACT RELATED TO MY SPACE JOB

There are 500,000 pieces of space junk flying around in Earth's orbit from disused satellites and rocket launches. A huge role in the future of the industry will be tackling this problem.



Vicky

Astronomer

CAREER AT AGE 10?

A veterinarian, an accountant or a particle physicist.

AREA OF SPACE?

I am an astronomer at university, where I research quasars; extremely bright galaxies powered by supermassive black holes. Quasars are some of the brightest objects in the Universe! I use quasars to understand how galaxies grow.

CAREER NOW?

Astronomy is based on physics and maths. We also use a lot of programming in our research.

FUN FACT

I love to surf! I travel to Devon every year to go to the best surfing beach in the UK (in my opinion!).

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

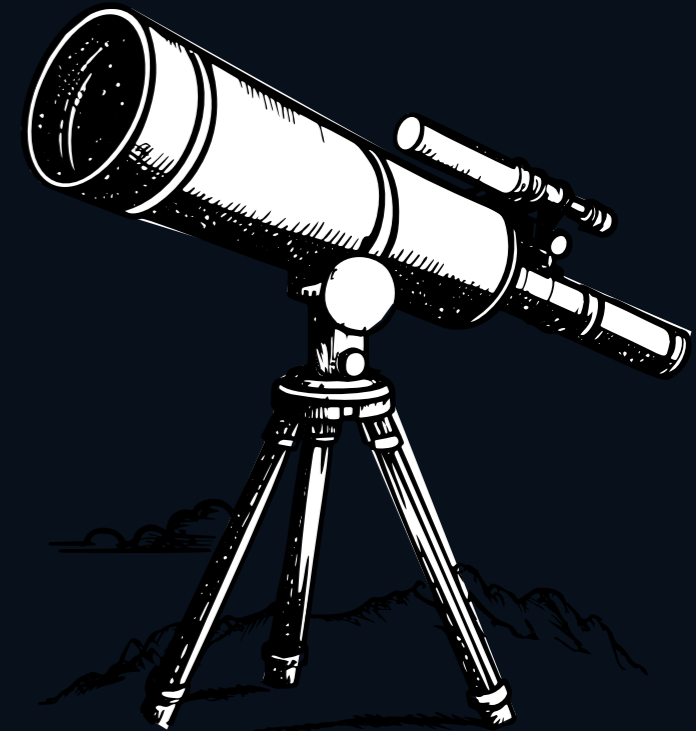
I love how much I get to travel in my job; I've visited telescopes in India and attended conferences in Iceland and San Francisco.

CHALLENGES?

It is really difficult when you're stuck on a problem, or your code doesn't work, for days or weeks. It can be really frustrating and sometimes makes you want to quit! However, it is the best feeling when you stick at it and finally solve the problem.

SPACE FUN FACT RELATED TO MY SPACE JOB

There is a supermassive black hole at the centre of almost all galaxies, including our own!



Matt

Team Manager

CAREER AT AGE 10?

I wanted to be a footballer.

AREA OF SPACE?

I manage a team that recruit for Engineering, Technology, Sales and Operations Professionals into the United Kingdom and European space sector.

CAREER NOW?

Science - Nearly all space activity is based on science. Maths - In order to understand salaries and benefits. Engineering - A lot of what our team recruit for is engineering positions, e.g. building things that go into space.

FUN FACT

I have played cricket against Jofra Archer and Phil Salt (England cricket players).

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

I love the variety of people we get to speak to, be it companies doing different things in space to better our lives on earth, or incredibly talented candidates who are building things that go to space.

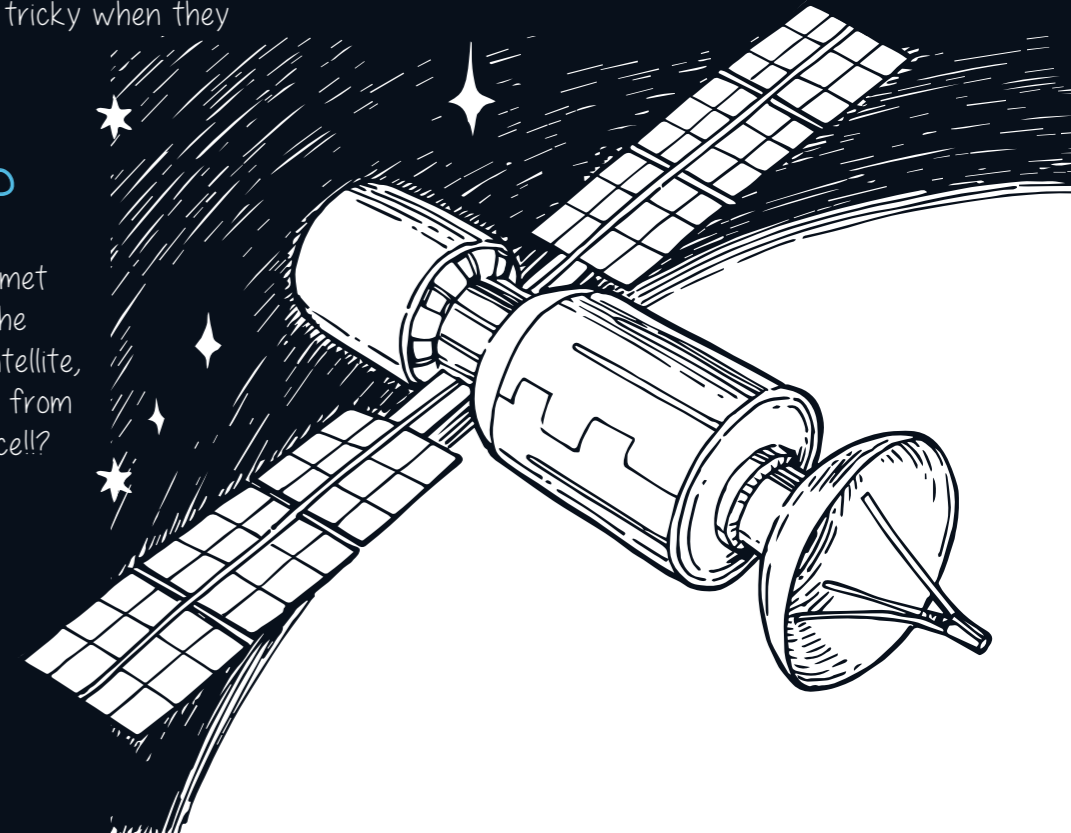


CHALLENGES?

A lot of what we do is reliant on people, and people like different things, changing a job is a big thing for someone and can be tricky when they have lots of different jobs to choose from.

SPACE FUN FACT RELATED TO MY SPACE JOB

I once went to Germany and met with a client. We went in to the cleanroom and saw a HUGE satellite, I was stood less than 1 meter from it. That satellite is now in Space!!?



Harriet

Space Systems Engineer

CAREER AT AGE 10?

Astronaut or a cowgirl.

AREA OF SPACE?

I design payloads for satellites. The payload is the part which performs a task, such as taking photos or collecting data. The satellites I work on collect data about planet Earth that can help us understand and monitor climate change.



CAREER NOW?

I use all the STEM subjects. My role is engineering including design work, I also use science to understand the data our satellites collect, maths to calculate the weight and strength of our payloads and then we develop new technologies to make our next satellites even better!

FUN FACT

While I don't do the career I wanted to do at aged 10, I did apply to be an astronaut with the European Space Agency and I have spent two months being a cowgirl in America.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

The satellites I design are very complicated so it takes a large team of people to do the work. This means I get to work with people from all over the world and I get to travel lots. I also love knowing that things I have designed are now up in space!

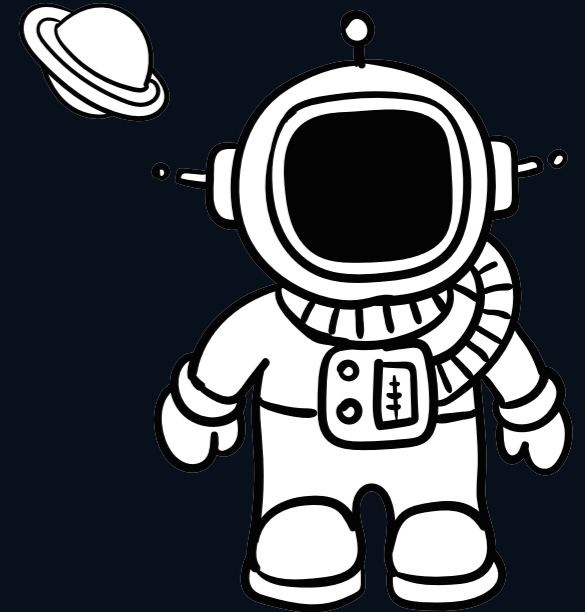
CHALLENGES?

Designing anything to go into space is a big challenge. It must be strong enough to cope with vibrations during launch, it's like shaking a jelly! Then, once it is in space, a satellite must be designed for very hot and very cold temperatures.



SPACE FUN FACT RELATED TO MY SPACE JOB

The American satellite Vanguard 1 was launched in 1958 and is still orbiting Earth today.



Sam

Senior Partner

CAREER AT AGE 10?

Fireman

AREA OF SPACE?

I recruit Senior Professionals & Executives who lead some of the most exciting companies building rockets, satellites & lunar landers.

CAREER NOW?

I use a variety of STEM subjects for my job, most notably pulling upon my knowledge of science & engineering which helps me understand my clients offering and what problems they are trying to solve.

FUN FACT

I grew up obsessed with Star Wars and now get to play a small part in helping humanity explore the stars.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

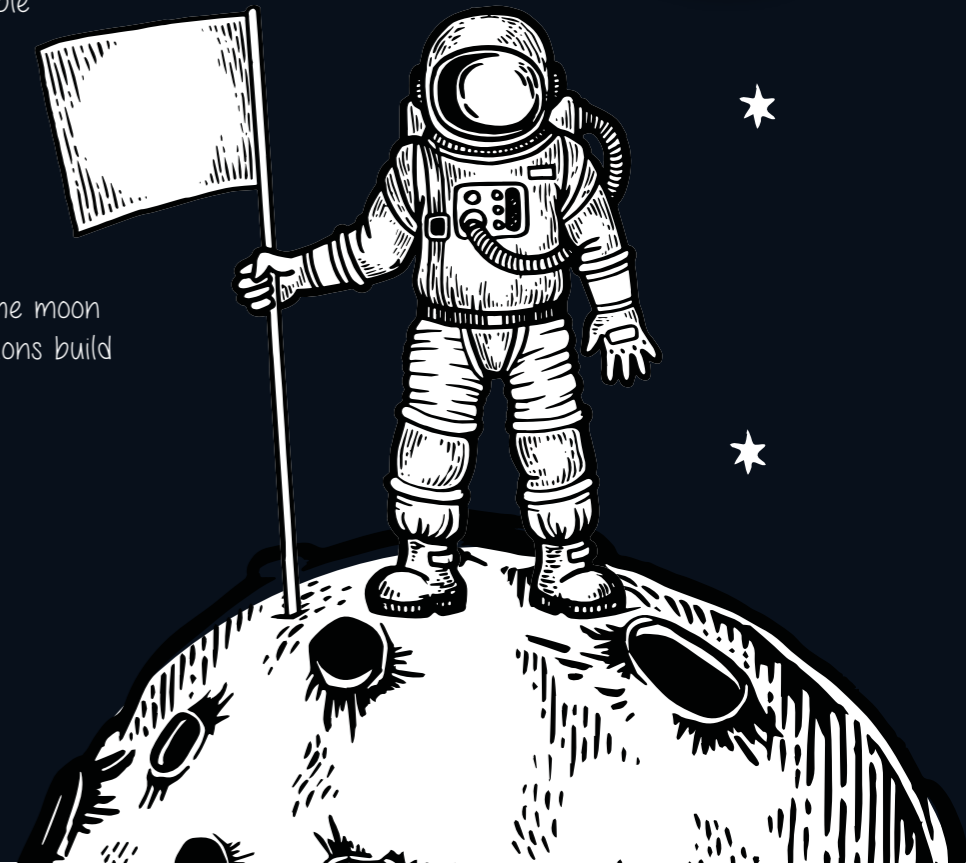
I get to work with some of the most advanced & innovative companies from across the world and I play a part in helping the advancement of humanity.

CHALLENGES?

One of the challenges in the role is being able to multitask, there are usually multiple plates spinning and it is my job to keep everyone happy. Being organised is key to success!

SPACE FUN FACT RELATED TO MY SPACE JOB

Man took its first & last steps on the moon in 1969, I am now helping organisations build towards revisiting the moon!



Vikki

Multi-Layer Insulation (MLI) Technician

CAREER AT AGE 10?

Stable groom or graphic designer.

AREA OF SPACE?

I work in Thermal engineering.

CAREER NOW?

I use technology, engineering, and mathematics.

FUN FACT

I am an adrenaline junkie and skydived on my birthday last year (2022) for charity.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

There are many things I could choose so; working on things that are going into space, telling people about my job and seeing them amazed and being able to use my creative skills to do this job are my top three.

CHALLENGES?

Being a perfectionist, I've had to teach myself to let go of tiny imperfections in my work to finish jobs on time.

SPACE FUN FACT RELATED TO MY SPACE JOB

All blankets of Multi-Layer Insulation per project go through six key inspections, so they are suited for the equipment and aren't damaged throughout the process?



Richard

Chief Operations Officer

CAREER AT AGE 10?

Family Landscaper

AREA OF SPACE?

I work in commercial space. Our company focuses on strategic and tactical engineering support for all of the major space companies in the aerospace industry. We work on Vulcan rockets, the Artemis program, New Shepard and Dream Chaser programs to name a few of the common ones.



CAREER NOW?

The STEM subjects that are most useful are any classes dealing with science, math, and writing to form a foundation for working in any engineering field. Engineering is all about problem solving and then being able to communicate solutions to problem sets effectively. Courses like physics, chemistry, geology, and biology combined with courses such as calculus and differential equations will build a strong base for problem solving while understanding materials, chemicals, the environment and living organisms. Writing courses will assist with delivering the information and solutions to the rest of your engineering teammates and the industry.

FUN FACT

I am actually not an engineer! I enlisted in the US Army out of high school and worked my way through the US Army becoming an officer and a helicopter pilot. My story is one of applying yourself to whatever job you are assigned in an effort to prove that your talented enough to attain the next position. Through determination, hard work and attention to detail, all things are possible.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

The best bit is that the Space industry is breaking barriers of exploration and of what is possible. It is the industry of tomorrow and produces incredible technology.

CHALLENGES?

With any job, the higher the position you hold, the more responsibility is placed on you. Lots of decisions that are being made for what happens truly depend on the accuracy of information, the results of testing designs and prototypes, and being able to effectively communicate those things to the decision makers and leaders.

SPACE FUN FACT RELATED TO MY SPACE JOB

My company designed the camera housings that they put on the jet fighters used in the Top Gun: Maverick movie.



Sofia

Product Assurance Engineer

CAREER AT AGE 10?

Architect, because I loved designing houses and buildings.

AREA OF SPACE?

I work for the UK's National Space Laboratory, where we help make spacecraft and lots of space instruments. We're involved in every step of the process, from imagining new mission ideas, to designing, building and testing the spacecraft to make sure it's safe and ready for its mission, and analysing the scientific data sent back to Earth. It's really important work, and I'm proud to be a part of it!

CAREER NOW?

I help design and build spacecraft using my engineering skills as well as the latest technology available. Our spacecraft do a lot of cool jobs such as taking pictures of galaxies, the sun, and monitoring climate change on Earth. You have to understand really well how the spacecraft will work (the technology bit) and how you will build the spacecraft (the engineering bit).

FUN FACT

When I was 16, I passed my skipper license just before the age limit was moved from 16 to 18, which meant that for the next two years I was amongst the youngest people in Spain that could sail large boats around Spain!

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

You work every day designing and building things that go into space! You decide what you want your spacecraft to look like, what its "job" will be and how you will build it. Once it's ready, you get to see it launched by a rocket into space and then you receive data. It's very rewarding.

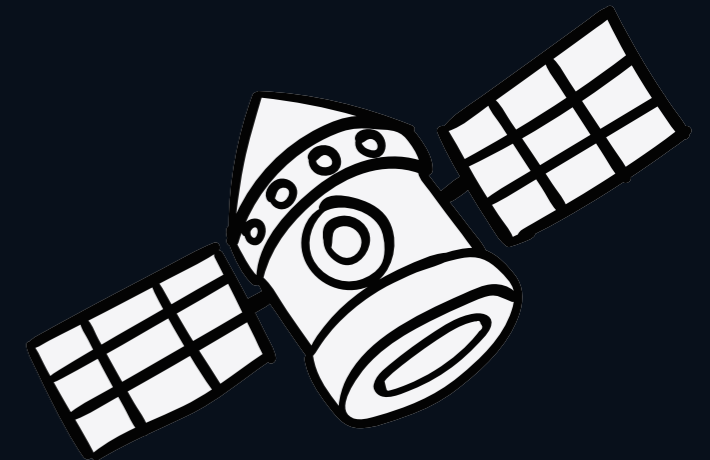
CHALLENGES?

You need to be very careful when designing and building the spacecraft. At the moment you cannot send anyone up into space later to fix it, therefore it needs to be very well built and very resistant to its space environment. This means we spend a lot of time designing it and testing it to make sure it's going to work. This often takes many years!



SPACE FUN FACT RELATED TO MY SPACE JOB

Before any of our spacecraft are launched, I oversee the tests to make sure they are ready. Several of these tests are called the 'shake and bake' tests. The spacecraft is shaken and baked to see if it can handle the bumpy ride and extreme temperatures of a rocket launch and space travel.



Soraia

Recruiter - Space Infrastructure

CAREER AT AGE 10?

Nurse

AREA OF SPACE?

I recruit Program Managers - The people who lead, plan and monitor the development of a spacecraft program, from concept to launch into space.

CAREER NOW?

I use engineering



FUN FACT

I discovered my passion for engineering after starting my professional career in HR/recruitment. At school I wasn't great at math, so I thought a great option for me to work in what I've found to be my passion would be recruiting engineers. I moved to the UK and have since been recruiting engineers all around the globe.

WHAT'S THE BEST BIT ABOUT WORKING IN SPACE?

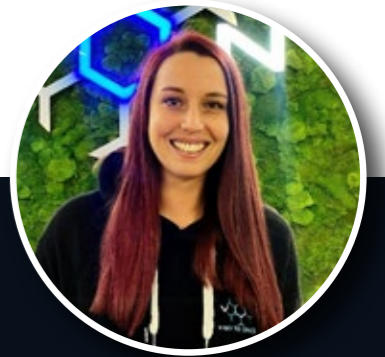
I get to talk to interesting people developing some of the most advanced technologies out there and I learn new and exciting stuff every day!

CHALLENGES?

Learning lots of new things, constantly! When recruiting for technical roles, we need to learn a lot about the products and technologies the engineers will be working on, so we know whether they'll be the right person for the job. It's a challenge, but also one of the most interesting parts of the job.

SPACE FUN FACT RELATED TO MY SPACE JOB

Did you know astronauts have special spatial exercise machines when in space!





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