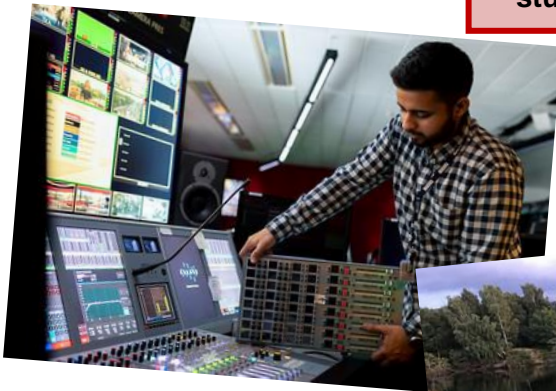




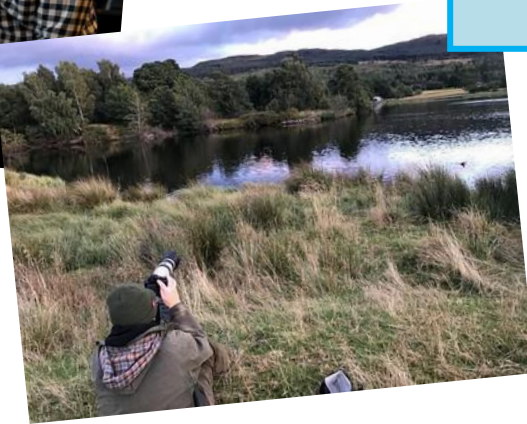
WHAT IS AN ENGINEER?



An engineer, designs things, builds things, tests things, looks after and repairs things. Engineers work everywhere. From motor cars to space rockets, windfarms to nuclear power stations, vaccines to artificial hips, buildings to bridges, smart phones to computer games, agriculture to supermarkets, recording studios to sports stadia



Whatever you are interested in, as an engineer you can work on it. There is no part of modern life that engineers are not involved in



Jobs are plentiful and well paid, and engineers can travel the world to work



ENGINEERING IN NORTH EAST ENGLAND



Bring It On focuses on five areas of engineering, which are all important in the North East of England

Let's look at them and some of the world leading companies that work in them:

Automotive, Rail and Aerospace

In the North East we make cars, trains, and parts for aeroplanes. Britain has the second largest aerospace industry in the world. The North East is on the way to being a major source of batteries for electric vehicles



You will work with objects and systems in motion, and you will take a product from a great idea all the way to it becoming a real-life product ready for people to use

Imagine designing and building a car, a tank or even a rocket ship! And that is just a few things you could work on. If you like to build things, are interested in how things work and are creative, this sounds like the perfect job for you!



Some Companies who work in this sector:





Chemical, Processing and Biotechnology



We all use chemicals, like salt and soap, every day, at home, at work, in food and medicine. The North East has one of the oldest and largest chemical industries in the UK. We make everyday chemicals, fertilisers, fuels of the future, food, and medicines, including a coronavirus vaccine



Chemical engineers use science to convert one thing to another. They develop and design processes to make things we all need every day

FUJIFILM DIOSYNTH
BIOTECHNOLOGIES BREAKS
GROUND FOR EXPANSION OF
ITS MICROBIAL PRODUCTION
FACILITY AT ITS BILLINGHAM
PLANT



Some Companies who work in this sector:



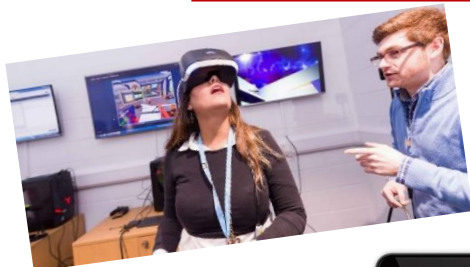
Creative and Digital Technology



We have all learnt in the past year how important digital technology is and will become. Whether we are talking about smartphones, virtual meetings, buying on the internet, banking, videogames or just watching YouTube, engineers are vital to both the software and the hardware involved



The North East has many companies involved in the digital industries and they are all looking for qualified and creative people



Some Companies who work in this sector:



North East
Tees Valley





Civil, Structural and Construction



Like the rest of the world, the North East needs civil engineers and has many civil engineering companies. They design, build, and maintain roads, bridges, buildings, and utility networks (water, gas, electricity etc.) that we all need every day



Designing things that people will drive on, live in, use and see every day is really incredible and these designs keep people safe and make our towns and cities the way they are



Some Companies who work in this sector:

CATERPILLAR



capita



KOMATSU





Subsea, Oil & Gas, Renewables and Energy



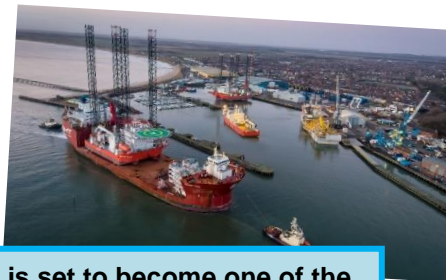
North East companies and engineers have a long tradition of working in the 'old' energy sectors like oil and gas. They are rapidly developing expertise in the new sustainable energy industries



Subsea robots, developed for oil and gas wells, are being used to install and maintain offshore wind farms. Service companies and their engineers are converting from oil and gas rig maintenance to wind farms. A North East company manufactures the cables needed to connect offshore windfarms to the grid, using technology developed for offshore oil wells



The fabrication yards developed to build oil rigs are being used to make wind turbine structures and turbine blades. Blyth in Northumberland is one of the world's leading centers for wind power development



Teesside is set to become one of the UK's hydrogen hubs producing clean fuel for industry, homes, and heavy transport. It can do this because it has a strong chemical industry and the offshore expertise to capture CO2 in redundant gas wells. Teesside also boasts a major energy from waste plant



Some Companies who work in this sector:





WHY BECOME AN ENGINEER?



Engineering is very well paid, whether you are a technician, a skilled craftsperson, or a graduate engineer.

There are many jobs, and your skills are very transferable.



Engineers can easily move from one industry to another and from one country to another

The international language of engineering is English! British engineering qualifications are well respected all over the world

Many other professions, like finance and teaching, welcome engineers because of their training



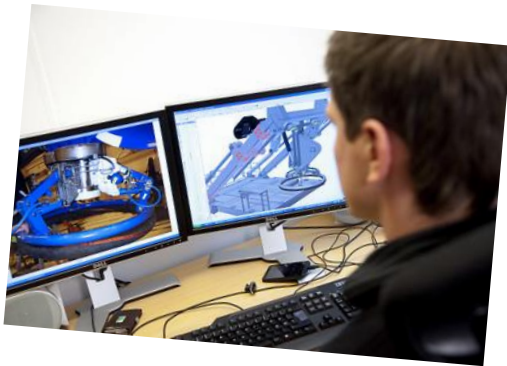
Most importantly engineering is fun!



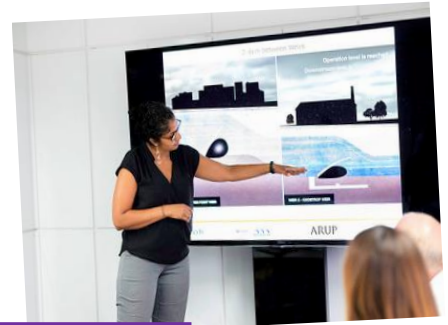
WHAT SKILLS DO I NEED TO BECOME AN ENGINEER?



Engineering is a serious profession. I am sure you want to think that the people who designed and built the bridge you are driving over or maintain the plane you are going on holiday in knew what they were doing



Engineers also need to be creative and be good communicators



Last year, in our videos, we spoke to many engineers from different engineering backgrounds. See them here:

<https://www.bringitonne.co.uk/bring-it-on-2020/>

Despite all having different roles and specialisms there were lots of answers that were the same. Here are a list of subjects, skills, and interests that our engineers came up with last year:

- Have an interest in maths and science
- Be creative
- Be good at problem solving
- Work well as part of a team
- Be able to communicate well to explain ideas to colleagues and others
- Be well organised and able to meet deadlines



Is this you?