



Employment
and Skills
Board

careers and opportunities in **MANUFACTURING & ENGINEERING** ESSEX 2016-17

Did you know that [the UK is actually the 11th strongest manufacturing nation in the world!](#) The advanced manufacturing and engineering sector is massive, but we've broken it down into the different industries below that you could pursue an exciting career in. Have a look at some of the unique opportunities that this sector has to offer and learn loads of impressive facts in this infographic!

AEROSPACE



AUTOMOTIVE



TECHNOLOGY



IMPORTANT ENGINEERING INDUSTRIES IN ESSEX

CHEMICAL



HEALTHCARE



MACHINERY



PHARMACEUTICALS



TOYS



FOOD & DRINK



ENERGY



DEFENCE



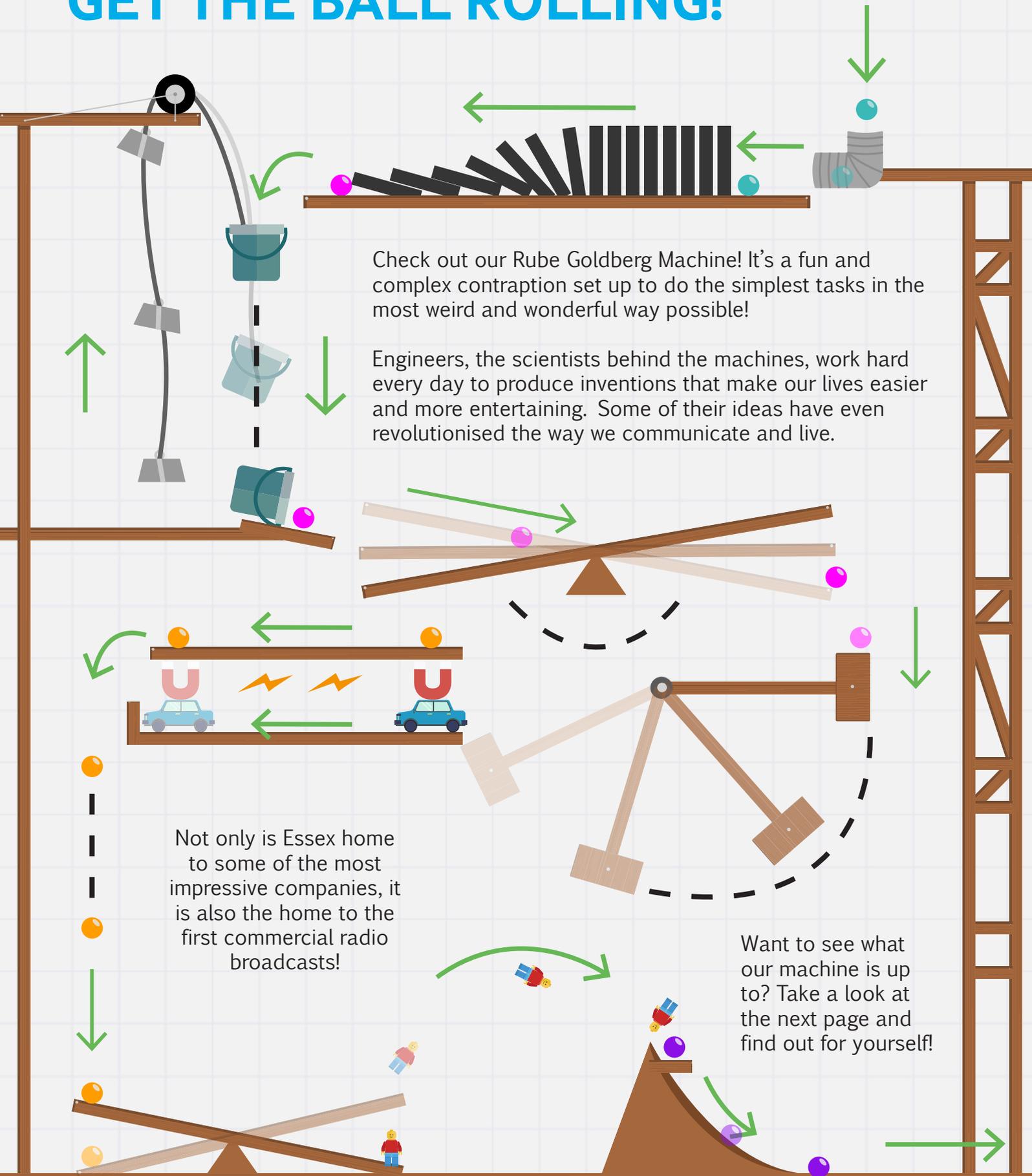
UNBELIEVABLE, JEFF!



Chelmsford-based engineering company, e2v, have created 106 imaging sensors that will record over one billion objects in the Milky Way Galaxy over the next five years!



IT'S TIME TO GET THE BALL ROLLING!



Check out our Rube Goldberg Machine! It's a fun and complex contraption set up to do the simplest tasks in the most weird and wonderful way possible!

Engineers, the scientists behind the machines, work hard every day to produce inventions that make our lives easier and more entertaining. Some of their ideas have even revolutionised the way we communicate and live.

Not only is Essex home to some of the most impressive companies, it is also the home to the first commercial radio broadcasts!

Want to see what our machine is up to? Take a look at the next page and find out for yourself!

WHAT'S OUT THERE FOR ME?

There are hundreds of opportunities available in this sector. We will only show you seven for now, but take a look at some of the different roles in advanced engineering and manufacturing and click to go to [Tomorrow's Engineers](#) if you're looking for something else within this sector!



Aerospace Engineer £28k - £45k+

Sounds cool right?! Well, it is. Participate in flight test programmes, apply science and technology to create aircraft equipment and even design aircraft mechanics on computer systems. Aerospace Engineers help create the safest and most efficient aircraft.

Automotive Engineer £22k - £30k+

Design, develop and produce! The world of vehicles is waiting for its next Automotive Engineer to build prototypes and test performance and safety features. They also get to inspect and test drive vehicles and need to create the latest designs to suit their customers, their company and government requirements.



Mechanical Engineer £20k - £28k+

Most industries rely on a form of mechanical systems and mechanical engineering to produce and repair a whole host of products. We're not just talking about engines either - we mean from the most intricate, to the most powerful creations: mechanical hearts, production processors and medical robots.

Chemical Engineer £29k - £35k+

Like a real magician, these people use science and chemicals to change the build of things to make products... like changing oils into plastics! Chemical engineers have to make sure their lab is completely clean and regulated in order to make the best parts ready to be manufactured.



Product Manager £30k - £40k+

With every project someone needs to oversee its production and execution. Product Managers ensure that things are in order from health and safety and regulation requirements to ensuring team targets are met. They oversee the product from assisting the plan to the big launch!

Electronics Engineer £21k - £29k+

Phones, nanotechnology, robotics or sound - the choice is yours! All of these areas have Electronics Engineers to develop solutions to problems using technology and monitor the day to day operations of its construction. Your laptop didn't build itself, you know!



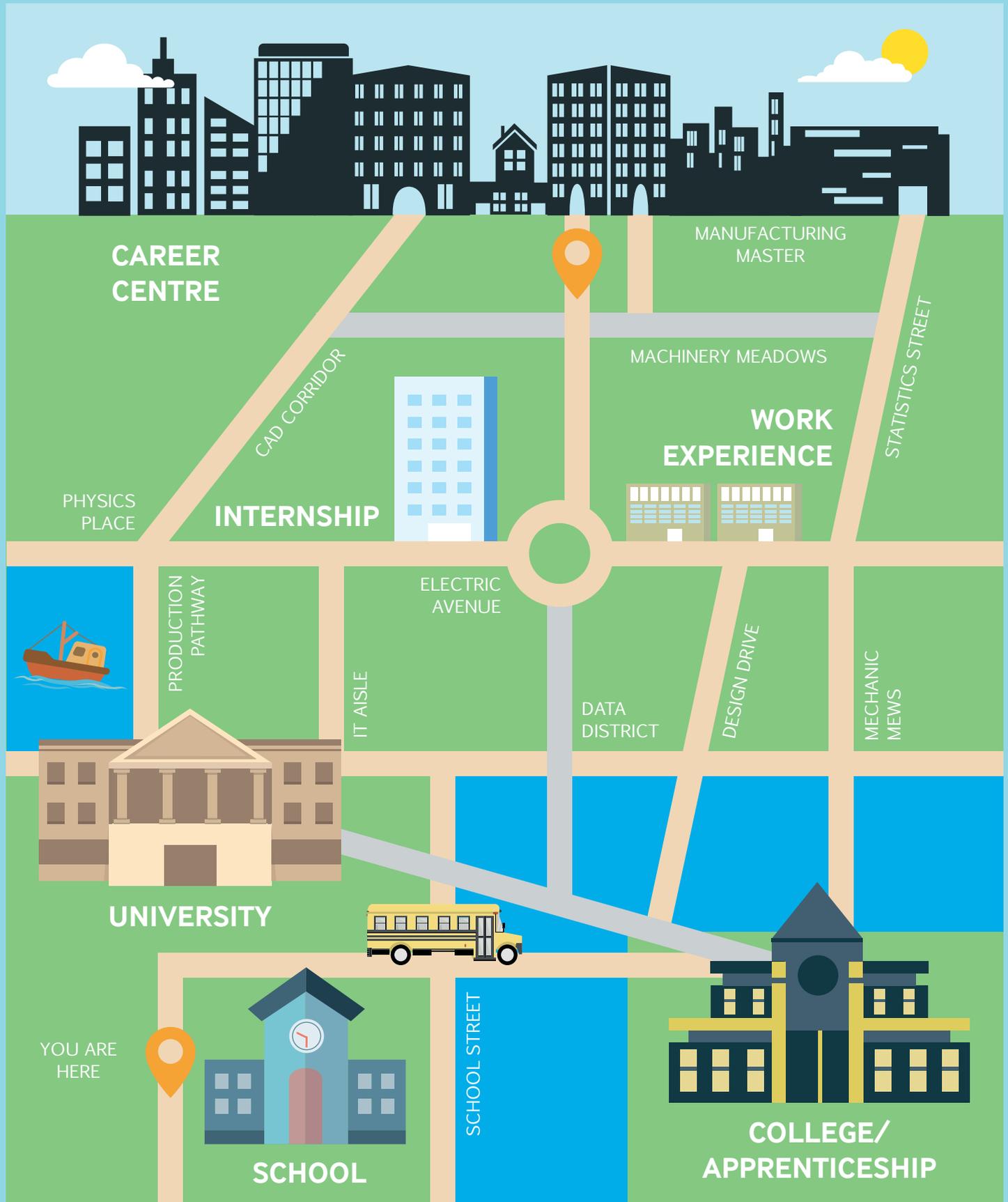
Engineering Geologist £21k - £23k+

Any idea how to build a 25 mile rail tunnel underwater? This was one of the big challenges when creating the Eurostar tunnel between England and France. Engineering Geologists solve engineering problems involving geological hazards and ground conditions, making sure the whole project will be successful.

SKILL CITY



It's easy to get from A to B when you know how. Here's a little guide to give you an idea of how you can get to your next stop. Whatever your path, there are no dead-ends! Employability skills are crucial in your rise to an awesome career so the fastest way to the top is to get as much experience as you can!



50,000+



employed in the sector in Essex.

4,200+



enterprises in the sector in Essex.



There were over 13,000 job postings across the sector in Essex in 2015.

Production and Process Engineering is in particular demand in Essex. This occupation has been identified as a national shortage occupation for three years since 2013.



This sector really values every qualification, so how you enter the industry is up to you. Whether you take an apprenticeship, a BTEC, an NVQ, or go to University, there are plenty of opportunities to get into this sector.



WHERE IN ESSEX?

Gear up for a look at some of the amazing advanced manufacturing and engineering companies in your area, and see how many vacancies were posted across Essex in 2015.

VACANCIES BY DISTRICT



LOCAL BUSINESSES

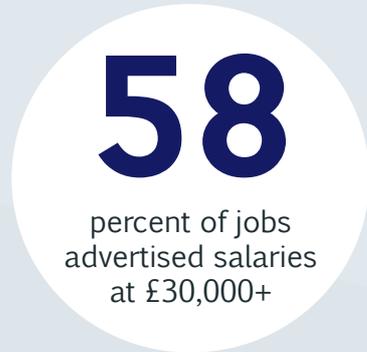
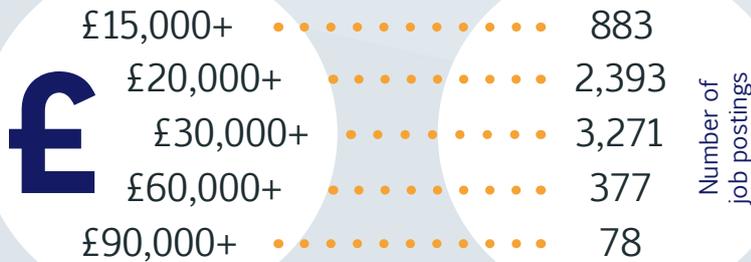
BASILDON -Alucraft Ltd. -Konica Minolta -Leonardo	BRAINTREE -Crownlea Group -FSE Foundry -Precision Aero space Eng.	BRENTWOOD -Knight Precision Engineering -LSA Civil Eng. -Revolve Eng.
CASTLE POINT -APH3G Ltd. -Electroglass Ltd. -Elmsleigh Engineering Ltd.	CHELMSFORD -AECOM -Denward Manufacturing -e2v	COLCHESTER -4D Engineering -K J King Metalwork -Millrite Engineers
EPHING FOREST -Atkins Electrical -Ponting Engineering Ltd. -Wedge Civil Eng.	HARLOW -Air Industrial Equipment Co. -GSK -Raytheon	MALDON -Beckwith & Son Engineering -Maldon Marine -RM Engineering
ROCHFORD -Mistral Eng. -Rochford Engineering Co. -Scientific Electro	SOUTHEND -Hi-Tec Sports UK -Ipeco Holdings -Olympus KeyMed	TENDRING -A&R Engineering -DDSL Ltd -Dicol Precision Eng.
THURROCK -ET Marine & Industrial Eng. -Joseph Gallagher -ST Engineering	UTTLESFORD -BPH Rail & Civil Eng. -Inflite Group -Maleon	

ADVERTISED IN ESSEX

OCCUPATIONS

Design Engineer | Electrical Engineer | Welder | Metal Worker
Chemical Operative | Routine Inspector | Engineering Technician
Production Manager | Process Engineer | Planning Technician

SALARIES



TOP SKILLS ESSEX EMPLOYERS ARE LOOKING FOR...

Validation | Welding | Wiring | Analogue Design | Hand-Tools
Technical Support Packaging | Mathematics | Machining | CAD
Electrical Design | Business Management | Software Testing | C++

WHAT NOW?

Sounds good, right?! So what can you do to kick start your awesome career in advanced manufacturing and engineering? There are lots of places for you to find out more:

[Imagineering - imagineering.org.uk](http://Imagineering.org.uk)

[e2- young-engineers.co.uk](http://e2-young-engineers.co.uk)

[Tomorrow's Engineers - tomorrowseengineers.org.uk](http://tomorrowseengineers.org.uk)

Also, remember that gaining skills through experience is really important. Whether you are on a college course, an apprenticeship, or undertaking voluntary work, employers will always want to hear about your knowledge and skills!



@EssexESB

#WYT

essexemployment.skillsboard@essex.gov.uk



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Remember our Rube Goldberg Machine on the second page? It's time to make your own! Design a contraption in the box below. Your machine can do anything you want it to, but if you need some ideas, try some of these:

**HOW ABOUT A MACHINE THAT
DOES YOUR HOMEWORK?**

**OR SOMETHING THAT MAKES
YOUR BREAKFAST FOR YOU!**

Don't forget to take a pic and show us on Twitter: @EssexESB, or e-mail us: essexemployment.skillsboard@essex.gov.uk for your chance to win an Amazon Gift Voucher worth £30*

*Make sure you check our website for all the terms and conditions! essexesb.co.uk



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NOT MY THING!

Advanced manufacturing and engineering isn't your only option! If you don't think this sector is for you - there are plenty of other options for you in Essex. From construction to care and logistics to finance, Essex provides a long list of valuable areas for you to work in. Here's a small list of different sectors you can get into, but you can find out more information on six other sectors by visiting our website: essexesb.co.uk



Dentist £30k - £38k+

HEALTH

Not everyone's favourite person, but dentists are important people in the world of Health. We all know they attend to dental problems but what you might not know is that they're trained to identify diseases and dental conditions, manage their staff and research the latest developments.

Youth Worker £20k - £30k+

CARE

Your childhood can effect what you do in life and everyone deserves the opportunity to do their best. Youth workers give support and encouragement to children and teens in their personal and academic life, as well as give them an opportunity to talk to someone about what makes them happy or unhappy.



IT Technician £18k - £25k+

IT, DIGITAL AND CREATIVE

You call an IT Technician when things go a bit wrong with your tech. These gadget gurus can fix anything from the bits inside your computer to your internet connection. They even know the best gear for your games.

Rural Surveyor £25k - £40k+

CONSTRUCTION

Rural Surveyors transform muddy fields into goldmines! These land managers value property and assets and plan and develop land use. Data is their secret weapon, gaining as much information on their area as possible to exploit it for maximum result.



CHECK OUT ALL OF OUR SECTOR FACT SHEETS ONLINE

The collage features six fact sheets with the following key data points:

- Manufacturing & Engineering ESSEX 2016-17:** 1.3K different Care Businesses across Essex; 2m new members joined in Health and Care in UK by 2022; 137K people will need care support in Essex by 2022.
- Care Sector ESSEX 2016-17:** 10K job postings were available in 2015 in Essex; £103bn in 2014; 6.2% jobs in the UK were in Construction in 2013.
- Construction ESSEX 2016-17:** 2.2m people employed in this sector in the UK; 12% of the total UK total economic output from this sector - nearly £200bn!
- Finance & Insurance ESSEX 2016-17:** 25K employed in our in Essex.
- Health ESSEX 2016-17:** 213,000 jobs in the Creative economy across the East of England in 2015; 15% of the population in Essex are aged 65+.
- IT, Digital & Creative ESSEX 2016-17:** 2.2m employees in the Logistics sector in the UK as of 2015; 1st in the world for the number of logistics companies in the UK.