

# Why Design and Engineering are vital to life on Earth



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# Introduction

Our world is always changing in better or possibly worse ways. In order to advance the world and to solve the big problems of it, engineers and designers are here to create solutions and lead innovative developments. Engineers aren't just men in overalls fixing your car, they are much more important, they are here to make the world a better place (more on that later).

In this presentation I will be going over -

- The importance of engineering and design.
- What engineers and designers actually do.
- What they are working on in the world right now.



# What do Engineers and designers actually do?

As I mentioned earlier engineers and designers are here to make the world a better place and overcome problems. They are doing this by coming up with new ideas and exploring new possibilities that could make our lives easier. These advancements and improvements could also sort out big and small problems that may be very dangerous.

Once a solution has been discovered and evaluated they then move on to the next stage which is to create a prototype to test the concept or process to find out if it works. If the prototype has been successful the final step is to construct it in the real world.

There are many things that have been created over the years that we now take for granted, for example all the way back in the 18 hundreds a man named Etienne Lenoir invented the engine. Now a days the engine is used for many things. Without engines we would be unable to drive cars or other vehicles.



# What are Engineers are doing now?

The engineers of our today are working on a wide range of innovative designs and projects. They aim to defeat the main issues of society and make the world better and easier to live in so this means they are going to have to tackle some big issues.

One of the main things that they are working on is trying to make houses insulated more efficiently and find other ways to reduce Global Warming's impact, like using new energy sources. Global Warming is one of our biggest threats and engineers are always coming up with new solutions and ideas on how to reduce its effects. Some of the major things that they have done so far to achieve this are electric cars, ways to reduce heat loss and lots of superior methods of gathering energy, by creating renewable energy sources like wind, solar or hydro.

In the current situation of Covid19 they are thinking of ways to protect us by making much safer masks and also creating robots that can safely administer medicine to patients in the hospital without requiring any human contact.

# Robots

Nowadays, there is a huge demand for robots to replace manual activities. Robots are continually growing in popularity and are playing an increasingly important role in society. They are also being used in the workplace, our hospitals and even our education just to make everything a bit easier. Robots are one of the main things that engineers are working on at the moment. They want to use robots for a number of reasons, such as -

- Robotic Limbs
- Giving company to lonely people (elderly)
- Helping in hospitals such as prescribing medication
- Exercise coaches for people who have had a stroke
- Help develop social skills for autistic kids



Another reason why they are creating robots is to reduce human labour, in other words giving robots the jobs of humans, they can also perform tasks that are too hard and too dangerous for humans to complete. One of the most important uses for robots is that some are built to be able to perform very difficult surgery.

# Do you want to be an Engineer? - Types

Do you have a passion to change the world!? If so, I would highly recommend becoming an engineer. There are many types of engineers which include:

- **Electrical** - design the overarching systems of electrical appliances we use on a daily basis.
- **Mechanical** - focus on the design and development of powered machines and engines
- **Civil** - engineer the systems and frameworks that power our everyday lives, including roads, bridges, water supplies and buildings.
- **Marine** - specialise in designing, building and maintaining vessels
- **Software** - design, develop, test and maintain the systems that power our technology
- **Environmental** - specialise in eco-friendly solutions for construction, agriculture, manufacturing and other areas that deplete the planet's resources.

Firstly find out which type of engineering interests you and suits your skills best.

# Do you want to be an Engineer? - Skills

You most definitely need technical skills, an analytical mind, and a good Education that includes maths and physics, most engineers will need an engineering university degree.

The personality traits that are required to be an engineer are -

- Excellent problem solving skills
- Creative and inquisitive mind, be able to think outside the box
- Good eye for detail
- Team working skills to come up with ideas
- Adaptable between different people, problems and situations
- Quick thinker



To be an engineer you will have to study and try really hard in school because it is not an easy career to achieve and demands a lot of skills, knowledge and dedication.

# Why do we need Engineers?

Engineers are so important to us because of so many reasons, without them the world would be set in a standstill as there would be no one to help advance it.

Even the simple things like entertainment is being delivered by engineers for example you have your smart phone, that was made from engineers, your TV, also made by engineers. These better and more hi tech gadgets also tie in with them creating better technology and as I mentioned in the previous slide they are creating robots which are (if made correctly) going to really help us human beings.

Thanks to engineers all of our lives have been made easier and safer to live. I'm certain that we all have so many thanks to give to them.

