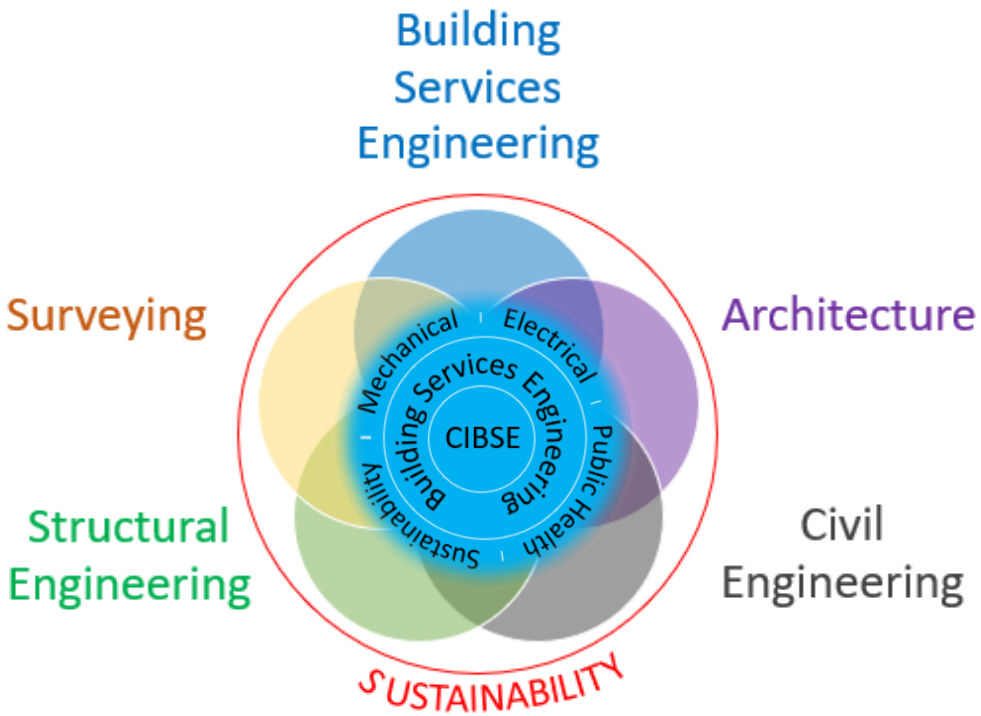

You might not always see the **Mechanical Engineering** in the built environment, but buildings wouldn't be liveable without it. Unseen systems such as the heating, energy supply, ventilation among others, are all needed for comfortable living and working environments. It is also important to try and make these systems as efficient as possible as wasted resources is one of the world's biggest issues. It is also used massively in automated travel systems within buildings in the modern era with things such as lifts and escalators.

Electrical Engineering plays a vital role when creating all types of infrastructure and its importance is only ever increasing in the modern world. It is required throughout the structure in systems such as: ICT, fire detection and protection, lighting (artificial and natural) among others. In this field there are constantly new innovations such as things like building automation which can re-invent the way we live and interact in our living spaces.

Architecture is the art and technique of designing and building, as distinguished from the skills associated with construction. It is both the process and product of sketching, conceiving, planning, designing and constructing buildings or other structures. It plays a large role in the world which often isn't considered by people. For example, nature and greenery have been shown to improve mental health for people living and working in the built environment which is becoming an ever-growing challenge in the increasingly urban world. Countries such as Singapore have been spear heads in the innovation of incorporating nature with manmade structures.

Civil and Structural engineers have arguably the most important job: making sure the building doesn't fall. It is, however, easier said than done with how many complex layers there are to creating a strong structure. It is the second oldest discipline in engineering after military engineering. It solves problems using the application of scientific and physical principles through the understanding of mathematics and physics.

Creating good **Public Health solutions**, not to be confused as 'only' plumbing, can have profound effects for communities within both the developing and developed regions of the world. Creating supply solutions and drainage solutions can drastically improve the life quality for people through improving hygiene and sanitation.

Within the modern world, **Sustainability** is one of the key goals to achieve for the built environment.

It is necessary to find solutions to prevent harm to the natural environment throughout all disciplines in engineering. **Sustainability = Economic + Social + Environment** which is a core principle for all Building Services Engineers.

CIBSE is the prime source of expertise in building services engineering.