# Scale of Production

One-off production Also known as jobbing production. This refers to the making of a ***single*** item, usually produced to a specific customer specification or requirement. This is high cost as the workers are highly skilled and materials can be expensive. This can include individually designed jewellery, clothes or furniture as well as ships, bridges and buildings. Time for manufacture may take longer than if massed produced.

Batch Production A batch can be any ***specified quantity*** from a few to a few thousand. Batches have production runs, which can be repeated. The work force, machines and equipment are flexible and can change quickly from batch of one product to another. The change over is known as “down time” and this must be kept to a minimum, as this loss of time can be expensive. This could be for such items as a special type of designed chair to be used in a public area such as an airport which needs to be individual to that environment.

Mass Production ***High volume production*** of products needs specialist equipment and largely an unskilled workforce in an assembly line. This process is usually broken down into small simple and easy to learn stages in order to provide flexibility to move around an unskilled workforce. The machines are usually highly automated and robotics are heavily used. Car manufacture is a good example of this.

Process Production Also known as **continuous production**. The process is 24 hours per day, non-stop, usually used in mass production. This requires high investment in capital equipment and is used only when it is economic to keep a process constantly running, such a steel production.

In reality most manufacturing is a combination of some of these types of production processes. Batch production often enables there to be variation to mass production products. When mass production of cars by Ford in America first meant that cars could be sold to ordinary people, each production line could only produce one type, only in one colour. Now it is possible even within mass production to have flexibility; each car progressing through a production line will have its own specification. This is achieved by producing ranges of engine sizes, wheel trims, upholstery types, etc. in small batches that can be fed into the mass-production process as required. Control of such systems has become possible by using advanced integrated computer systems.

Your project would be classed as a one-off production unless you are making more the one and repeating the same design. Architectural projects tend to be classed as one-offs, especially big projects, but batch can be used for smaller, modular building projects.