



From Idea to Product: Manufacture



Manufacture

At this stage, you should have a pre-production prototype that can go to manufacture as well as designs that can be followed for manufacture.

Choosing who to manufacture your product can be a difficult decision. Every manufacturer offers different benefits and it's not always as simple as choosing the cheapest option.

Research

Design

Prototyping

Manufacture

Assembly

Distribution

Domestic or Overseas?

To narrow down your search for a manufacturer, you'll first want to work out whether you want to manufacture in the UK or overseas. There are a number of benefits and negatives to each approach. You will want to find a balance between cost, speed and quality. Cheap manufacturing may be available overseas, but quality may not be as good, and the cost of shipping it to the UK may put the overall unit cost higher than what's available domestically.

Here are your key considerations when deciding the manufacture overseas or domestic:

Cost

Cost is naturally your key consideration. Economies and currencies play a huge part here. If the UK is planning on leaving the EU, is it a smart idea to put your manufacturing outside of the UK without knowing potential future importing costs.

Intellectual Property

Intellectual property becomes difficult to protect when you take your product overseas. However, in the UK you're protected by UK laws. For example, we're always happy to sign an NDA before working with you.

Communication

Manufacturing overseas can be riddled with language barriers. If there is a vital piece of information that needs to be transferred between the two parties, can you rely on their ability to communicate efficiently?

Quality Assurance

It's an almost trivial task to be able to travel to a domestic factory and inspect the products that are being manufactured. You're able to see first-hand the quality of the components. When working with overseas manufacturers, it's not that simple. Whilst you can always employ a third party quality checker, it's another step to the process that adds time and cost.

Import Process

What will the import process be like for your product? How long will it take and how much will it cost? Do you need to insure it? Ensuring that all of this is possible, within budget is important to not losing money simply on getting your product into the country.

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Factory Capabilities

It's also important to ensure that the factory can handle the kind of manufacturing needed to produce your product. For instance, we at MRT are aluminium and zinc casting specialists. However, we don't only offer this service, we also offer CNC machining, heat treating, finishing and assembly services.



EXAMPLE

Our coffee shaker can be cast from aluminium, so we're searching for a manufacturer that can produce high quality aluminium castings. We've narrowed down the possible manufacturers to these 2 factories, MRT Castings and 123 Metal Castings.

Both companies can produce high quality aluminium castings which we need. However, we also need the surfaces to be CNC machined for a perfect seal and the outside should be powder coated to look high quality. Since MRT offers all of these processes in house, we can save money on logistics and tooling by keeping it under one roof.

Other Clients

Who else does the manufacturer work with? Have you heard of them and are they reputable? If you're not aware of the companies your potential manufacturers works with, attempt to find a unit of theirs on sale and inspect it yourself for quality purposes.

Working with big names isn't always a sign of producing high quality. Likewise, a manufacturer with "no-name" brands on their portfolio may still be producing amazing products. Don't take the fact that they work with a huge brand as a sure-fire sign they'll produce great quality.

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NDA

Is the manufacturer willing to sign an NDA (non-disclosure agreement) before seeing your product and working with you? At this stage in the game, you've done a huge amount of leg-work and if you've not patented and trademarked it (and even if you have), there's always someone out there who will happily take that work and run with it.

Ensure that you're putting the measures in place to protect your intellectual property. If a company you're working with is not willing to sign an NDA, don't instantly be put off, there's often a good reason. However, it's a conversation worth having and it's important to remember to protect yourself and your company.

Tooling

Manufacturing processes, including metal casting, are complicated operations. Each product is different to the last and there are no two products that are manufactured in exactly the same way. This means that each and every manufacturing process needs to be tailored for that specific product.

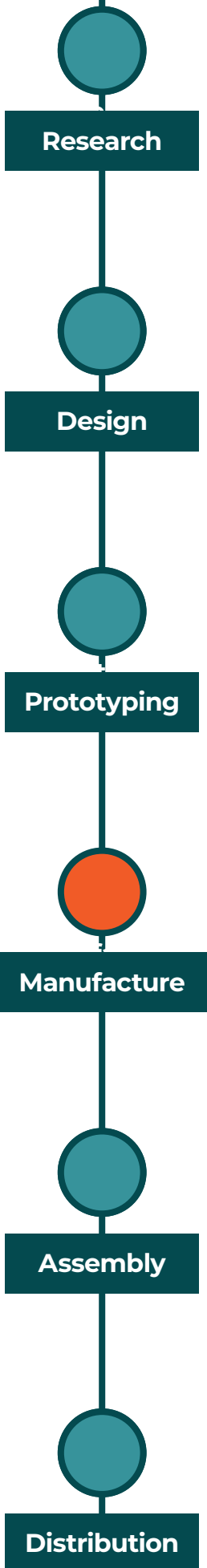
However, not every machine is equipped to hold, cut, clamp or stamp every possible intricate shape. This means that adapters, jigs and tools need to be crafted to allow the product to be manufactured.

This is where tool making comes in. Tool making is the creation of bespoke and specific tools that are used during the manufacture of an item. This can be anything from the tools needed to produce the item through to tools required for testing methods.

MOQ

Does the manufacturer have a Minimum Order Quantity (MOQ)? Most manufacturers won't turn their machinery on unless it's to manufacture a minimum of a few thousand units. How many units does your potential manufacturer require you to commit to before they'll do a deal with you?

There are plenty of manufacturers that will deal in limited runs of products, some specialise in just this. It all depends on the size of your operation and how much money you want tied up in products. As always, remember that there are humans at the end of the line and these things are always negotiable.



Which Tools Need Making?

Depending on your chosen production process, materials, and the complexity of your design, you will probably need some bespoke tooling.

Good quality tooling will enable accurate and repeatable production of your components, with maximum production efficiency. Most commonly, you will need either mould tools (for metal casting or plastic moulding), forming tools for sheet metal work, or jigs and fixtures for workholding during machining, assembly and testing operations.

Who Will Own The Tooling?

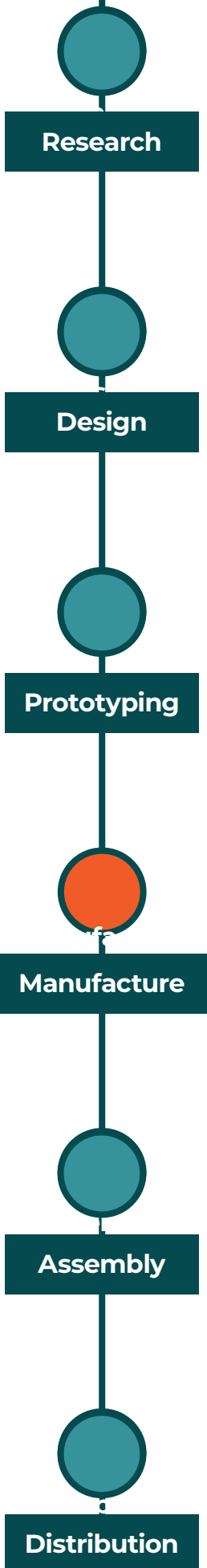
Good quality production tooling is likely to be your largest up-front pre-production investment. Despite the substantial costs involved, try not to be seduced by potential manufacturers who offer part-cost tooling.

If you own the tooling, then you maintain control of how it is used, and ultimately, if things don't work out with your supplier then you have the ability to withdraw it and transfer it to another supplier.

Work With Your Manufacturing Partners

Your chosen manufacturing partners are the best people to work with to design and source your tooling, as they are the people who will have to use it and keep it running.

Whilst they may not necessarily manufacture the tools in house, they will have specialist tool making partners who they work with regularly. Manufacturers such as MRT have a wealth of experience in how to optimise tool designs to achieve maximum production reliability and efficiency.



Full Production

At this stage, your product should be ready to go into full production. You shouldn't need to have much of a hand in this process; however you may wish to keep tabs on production, schedule and any potential problems that may arise.

Finishing

This is where it's important to see what services are offered by your manufacturer. Shipping components between manufacturers, finishers and assemblers can add a large cost to the manufacturing processes. Keeping it all under one roof is a smart way of savings costs and decreasing manufacturing time.

The process of "finishing" covers a wide range of post-casting processes that improve the look, feel or quality of it, known as the "finish". This can be anything from simple paint or powder coat through to shot blasting, silk screen printing, electroplating etc.

Which Finish is Right For You?

Your finishing requirements will be communicated and established before manufacture starts and your manufacturer should be able to guide you towards the finish that is right for the product you're manufacturing.

Not all manufacturing processes or materials allow for all finishes. Anodising, whilst popular, is not ideal for sand casted aluminium for instance. You're not expected to know exactly which process you need for your product, that's our job. However, knowing which properties you need from the product allow us to make an informed decision on which process is best for you. Each finishing process has its benefits and drawbacks. A robust, corrosion resistant finish may require powder coating, for instance.



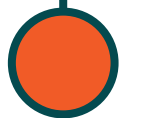
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