



# From Idea to Product: Prototyping





# Prototyping

Before, during and after product design, you'll be doing plenty of prototyping. It's an on-going task that will last the whole length of the product development process. Prototyping will validate your research and ideas and allow you to have a real product to test and evaluate. Whilst 3D modelling on a computer is effective, there's no substitute for physically holding the product in your hand and evaluating everything about it with a critical eye. Here are some of the prototyping steps you can expect to experience during your product development:

## 1 Idea Validation Prototype

Idea validation prototyping is the simplest form. It's a rough and ready "proof of concept" that merely represents that the idea you have works, and doesn't necessarily reflect how the product will look, the quality of it, or how well it does its job. You will have done this already if you're at this stage in the guide.

## 2 Design Prototype

This is the first prototype that might slightly resemble the product you want to sell. After the design for manufacture phase, we often produce prototypes using the intended manufacture methods to ensure that dimensions and tolerances are perfect. Often, we'll do this before making customers commit to tooling, so they can see exactly what they're will be paying for first. At this stage, prototypes are used for further market research – how do potential buyers like the product? Does it work as intended? Can it be improved? etc.

## 3 Iterative Prototyping

Next comes iterative prototyping. It's the same as design prototyping, but the prototype will vary slightly to accommodate research and insights from the previous prototype. Perhaps the mechanical design can be varied to be more efficient, smaller or needs to be stronger; perhaps the design needs to be altered for easier manufacture. This process repeats until you end up with the final prototype that will represent the final product – this is known as the "Pre-Production Prototype".

Your pre-production prototype should be as close as possible to what you're planning on producing. You can then use this pre-production model for a number of different tasks such as marketing collateral, market testing, investor onboarding, talking to manufacturers etc. Having a "finished" product that works is a big step in getting people to take you seriously.

