# Outcome development and evaluation

The development of a technological outcome (product or system) starts with the generation of design ideas and ends when the realised outcome (completed prototype) is evaluated prior to use in situ (the predetermined context).

This complex process requires wide a range of constructive skills and knowledge; for example, to communicate design concepts and work with materials and components.

Data obtained from functional modelling and prototyping provide a basis for justifiable decision making, ensuring that the final outcome, when produced, should to be fit for purpose as described in the brief.

Outcome development and evaluation can be thought of as the design, production, and evaluative practices of technological practice.

## Key ideas

### Technological practices

The aim of most technological practice is a technological outcome (product or system) that meets the requirements of the brief. While there are situations in which development work ends before it gets this far, this component focuses on practices that take development through to production and final testing.

These practices involve generating and testing ideas, refining concepts, and selecting, producing, and evaluating outcomes. They include, for example:

* researching published research findings and analysing existing technological outcomes
* experimenting with different ways of communicating design ideas and working with materials
* learning to use appropriate equipment safely and skilfully
* using functional modelling to test design ideas before they are realised
* using prototyping to determine whether an outcome is fit for purpose or needs further development.

### Functional modelling

A range of functional models (see Technological modelling) should be used to test initial design ideas and refine a conceptual design.

Functional models are also important for communicating proposed outcomes to stakeholders and others. Conceptual ideas should be presented using a range of suitable visual communication media so that those who are being asked for feedback can envisage what is proposed and provide relevant and informed comment. Stakeholder feedback should be sought regularly and critically analysed so that it informs ongoing development.

### Context-specific knowledge

High-quality outcomes require context-specific knowledge of materials and skills, including skills in the use of specialist equipment.

To ensure that an outcome is fit for purpose (in both the traditional and broadest senses) the technologist must explore in depth the performance properties of different materials, their aesthetic impact, accessibility, availability, and disposability.

### Evaluation

All evaluation should feed directly into ongoing planning. As a result of evaluation, initial plans will often be modified and resource projections revised.

Evaluative data is also used to inform further development or refinement of the brief, where this is advisable or necessary.

Final evaluation of a technological outcome’s fitness for purpose prior to its acceptance for use in situ is based on stakeholder feedback and data from prototype trialling

### Fitness for purpose in its broadest sense

To increase the likelihood that an outcome will be considered fit for purpose *in its broadest sense*:

* functional modelling should explore not only the suitability of the outcome itself but also the practices used to develop it
* prototyping should evaluate the outcome within the wider context of the brief, including physical and social environments, current and future.