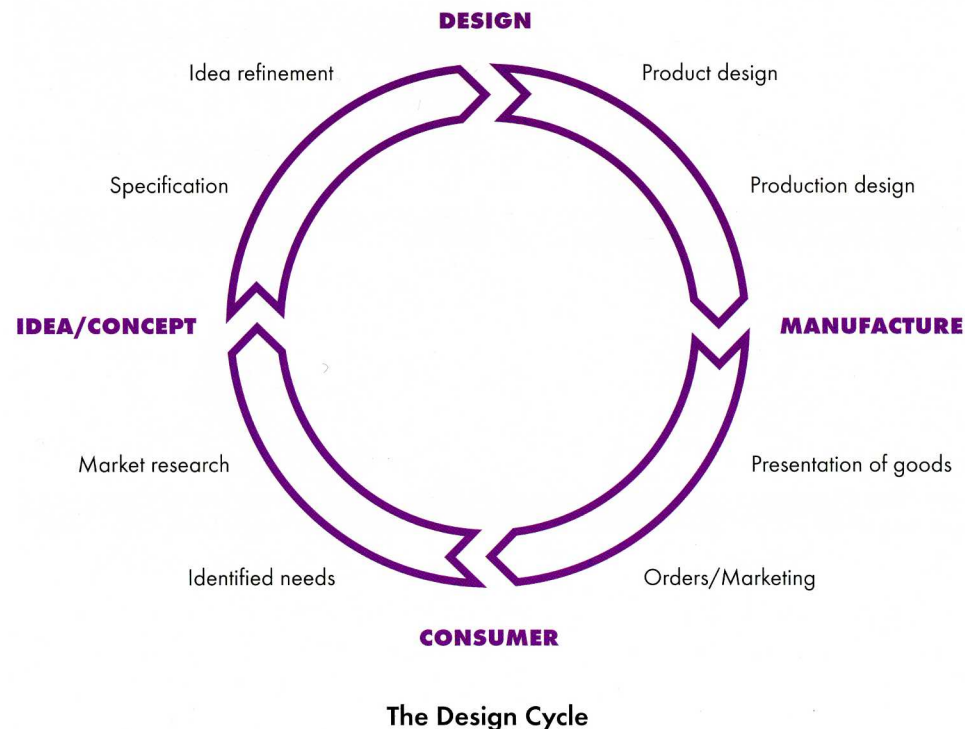## Graphics in industry

The increasingly international nature of all types of industry is making graphic communication more important. Increased use of graphical information around the world has led to the development of international standards in all fields, from engineering and construction, to electronics, retail and the chemical industries.
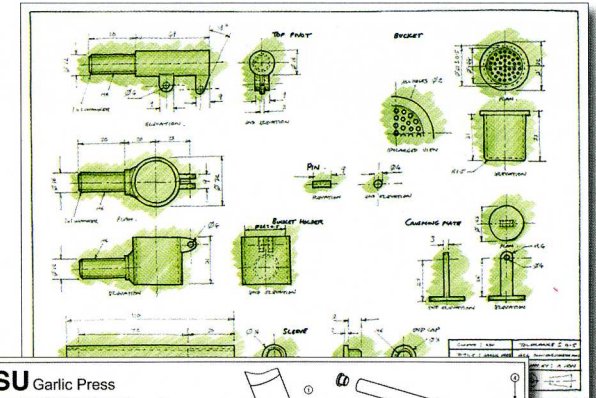
In most manufacturing industries the design and manufacture of any product follows a cyclic path from design though manufacture and marketing to its use by the consumer. If the product is successful, further market research will identify additional consumer needs and the product will be updated and modified before being manufactured and marketed all over again.

This process is known as the **design cycle**. The design cycle involves people with a broad range of skills and knowledge. Graphic skills are also important right through the design cycle and it's these specialised graphic skills that you will learn about and demonstrate in your Thematic Presentation (pages 189–217).
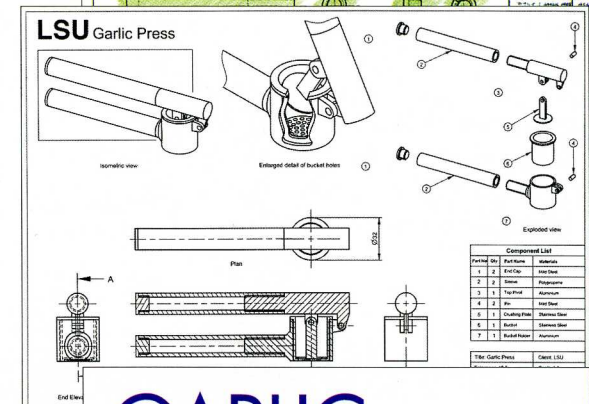
During the design cycle the type of graphics used fall into three main categories known as the **3Ps**:

• **Preliminary graphics**

• **Production graphics**

• **Promotional graphics**

You will follow a similar path in your Thematic Presentation by creating graphics that cover all three types.

The Design Cycle

DESIGN

Idea refinement — Product design

Specification — Production design

IDEA/CONCEPT — MANUFACTURE

Market research — Presentation of goods

Identified needs — Orders/Marketing

CONSUMER

GRAPHICS IN INDUSTRY

The 3Ps can be further separated into more specialised types. Each type of graphic performs a specific role in the design cycle and each may require specialised skill and knowledge to produce. The table lists the most important types of graphic and explains their purpose, how they are produced and who is likely to produce them.

Type of graphic	Purpose and production	Who produces them
Preliminary graphics		
Freehand sketching	Design and concept sketches (2D and pictorial) and manual illustrations are produced early in a design project to create and record ideas quickly. They will be produced manually and freehand (without the use of drawing instruments).	Designers and architects
Manual illustration	Quick pencil, coloured pencil and marker pen illustrations bring colour, texture and realism to a concept. These illustrations help communicate initial ideas to a client.	Designers and architects
Modelling	Product design and building design often make use of 3D models to develop and present the design before manufacture or construction begins. 3D models are now usually computer generated.	Designers, architects and model makers
Planning charts (flow charts, Gantt charts and story boards)	These are charts to plan the design and manufacture of a product or construction project from start to finish. The charts break the project down into smaller tasks and plan the sequence of tasks against time. Planning charts are developed at the start of a project so that time and resources are used effectively.	Project management teams
Market research charts	Tables and graphs display information gathered through product tests and consumer questionnaires. Relevant information is collated for the design team.	Marketing and sales team
DTP thumbnails, roughs and visuals	Design sketches and drawings are used for promotional publications and documents such as sales brochures, instruction manuals, assembly guides, advertising leaflets, posters and videos.	Graphic designers create layouts for promotional publications
Production graphics		
Orthographic drawings (sectional views, exploded views, assembly drawings and surface developments)	Scaled and fully dimensioned CAD drawings are used in the manufacture and production of a product. The dimensions are toleranced so that components can be assembled correctly. Planning charts (schedules and Gantt charts) are also used to plan the production.	Design engineers and design draughtsmen and women
Location plans, site plans, floor plans and sections	Scaled and fully dimensioned and toleranced building drawings give builders, joiners and construction engineers the information they need to construct a new building.	Architects and architectural technicians
Promotional graphics		
DTP proofs	In publishing, camera-ready or plotter proofs are needed before a publication goes to print.	Graphic designers and printers
Illustrations, 3D models, animations, graphs and charts, and photographs	These are used in promotional material such as sales brochures, instruction manuals, assembly guides, advertising leaflets, posters and videos to promote and advertise a product or a company.	Graphic illustrators and graphic designers