

Modern Manufacturing Methods

The PowerPoint presentation was originally conceived and written as support material for GCSE Engineering (Double Award) to illustrate some of the concepts underlying computer integrated manufacture and lean engineering. It is intended as a teaching resource to prompt discussion, in preparation for industrial visits, and round which to build assessment material.

The presentation is in 4 sections, which can be selected from slide 2.

1. Industrial Automation Ltd.
2. Products
3. From idea to product
4. Use of ICT

Use the arrows to navigate. You can use the normal PowerPoint next and previous, but this will take you outside the sections.

Section 1 (slides 3-9) is a brief outline of the company. Points which may be raised are the size of the company (an SME) and how typical it may be. The relative numbers employed in different areas of the company. The importance of standard sealing systems to the company, and the spread of possible customers. The relevance of quality marks such as ISO9001 to industry.

Section 2 (slides 10-24) looks at some of the products produced by IAL.

- Sealing systems looks at one of the standard products made for the automotive industry. It illustrates the use of CAD in design
- Palletising and pallet stacking looks at some of the materials' handling products, and there is an example of the use of a robot arm in end of line solutions.
- Automation solutions looks at a couple of areas where custom-built solutions had to be found.

Points of interest are the different skills needed to design and build the range of products, the type of customers, the mix of standard and customized products, scheduling workspace, specialist tooling etc.

Section 3 (slides 25-30) follows the flow of a project from initial contact to commissioning. The movie can be watched in a suitable viewer. Unfortunately Windows XP does not support the original medium, so it cannot be embedded into the presentation.

This section can be used to underpin the structure of the portfolio work for Units 1 and 2 of the GCSE – the importance of the customer brief and the development of a specification; production planning and scheduling.

Section 4 (slides 41-45) look at the importance of ICT in controlling the flow of information from design through to invoicing and payment.

This is an important section for Unit 3 of the GCSE. Many of the questions centre on the importance of ICT in engineering and manufacture. It is difficult for pupils to gain experience of database and project management software at the level at which it is employed within a company such as IAL, and to differentiate between CAD, CAM, CIM, control systems, control technology, robotics