

## Design of Experiments 1-day Workshop

### Knowledge Content

High scrap and rework costs are detrimental in any manufacturing company. The reasons can be many: product output characteristics can be influenced by several inputs, and it can be difficult to know what changes to make to achieve the desired results. Design of Experiments provides a structured approach to experimentation in which several factors can be changed simultaneously – this enables the most important factors to be determined, and also enables a decision to be made as to what settings should be used to obtain satisfactory results.

Not only is Design of Experiments appropriate for process improvement, but also in product development work: the time to market for new products can be shortened if an optimised design for the product can be determined in an effective and efficient manner.

### Course Structure

The basics of designed experiments are considered, and a structure for conducting experimentation is given: defining the objective, choosing the output response, selecting the inputs to be varied, determining the levels at which the factors are to be set, choosing the actual experimental design to be used, preparing for the experimentation itself and conducting the experiment; the analysis of results is considered, and also the determination of optimum conditions, as well as the running of a confirmation experiment. Instruction is given on the use of software in the experimental set-up, and also in the analysis of the results.

### Who should attend?

This course is appropriate for those responsible for quality improvement, and also for those who undertake product development work. No prior knowledge of experimental design is assumed.