

## Laser Welding: A Guiding Hand from Concept to Production

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Working hand in hand with clients on the development of many new products each year, from new batteries or gearbox components in the automotive industry, through to medical devices, Carr's Welding has experience in guiding engineers along the path from concept design through to production. This presentation will give an introduction to the issues affecting laser welding, and achieving good procedures.

**Concept.** Confidentiality and the concept of the new product.

**Design / Geometry.** Overall size, shape and dimensions determine the laser system choice.

**Material choice.** Material type, thickness and condition are all important to the weldability.

**Laser Parameters.** Crucial to the cycle time and cost of the laser processing.

**Welding Trials, Analysis and evaluation.** Welding test-pieces and analysing weld strength to ensure fit-for-purpose. An order of procedures and welds can be set at this stage.

**Prototyping/ trialling and functional testing.** Developing the above and welding the first prototype.

**Analysis, pre-production and Procedure.** Implementing knowledge acquired at the prototype stage to optimise the results achieving a high yield of good parts.

The above process will be presented using a case study of a product or process that has been written and questions will be taken to explore individual ideas and concepts.