

3D CAD

Looking for a company with Computer Aided Design (CAD) depth and know-how? Our CAD modelling experience covers retail layouts, automotive components, construction, hydraulic, mechanical and civil engineering, manufacturing, industrial design and heating ventilation and air-conditioning (HVAC) industries.

Projects have included one off high-end pieces of medical equipment, low volume special purpose mechatronics to mass produced consumer goods. Designs have ranged in physical size from a finger tip, to installations spanning between levels, commercial and retail floor layouts to mapping deep underwater caves.

Inputs for generating the 3D CAD have ranged from hand sketches, 2D manual drawings or 2D CAD files to physical parts. Successful delivery is arrived at by constant interaction with our client so potential problems are detected early.

3D CAD outputs aid subsequent steps such as rapid prototyping, rendering and animation, computer aided engineering (CAE), tooling and production. Other tangible benefits of 3D CAD include improving our client's development time so the design gets to market quicker with fewer risks.

2D to 3D CAD Conversion

The traditional drawing office captured three dimensional forms by expressing them as a series of two dimensional projected views. The advent of 3D CAD and support manufacturing services means there are many advantages to gain by upgrading old 2D drawings.

With our CAD conversion service existing paper or 2D CAD designs are recreated in a 3D format. This enables the creation of files to assist with: cutting new tools (IGES or STEP); laser cutting profiles (DXF); and rendering and animation creation (STL or OBJ).

Computer Aided Engineering (CAE)

Computer Aided Engineering (CAE) is used to optimise a product or process. It's a refinement process which enhances the engineering by providing knowledge about critical design parameters. It creates virtual prototypes which reduces the need for physical testing and provides a faster, more cost effective design cycle.

CAE can involve stress analysis on components or assemblies using Finite Element Analysis (FEA) or simulation of operations such as injection moulding and casting. In general the process involves: defining the model and environment factors to be applied to it; running the analysis and; interpreting and reporting on the results.

Running the analysis can cause bottlenecks in a CAD department with computers consuming hours in computation time. Now with any set of parameters as selected by a client, DAP engineers can run the analysis.

We support a number of analysis and simulation tools using a range of CAE tools so contact us to discuss your exact requirements.

Conversion of Legacy Data

Business acquisitions and mergers along with new drafting practices can result in years of valuable company information being caught in redundant software and systems. Often the financial hurdle to upgrade a CAD system is not the software, but the physical time and drain on resources to transport the existing 'legacy' data across.

Now DAP can cost effectively handle this labour-intensive CAD work and smooth the software implementation period. Our client's resources remain free to focus on R&D and the transitional downtime is kept to a minimum.

Mechanical CAD

Mechanical CAD software assists with the design and engineering of manufactured goods. Our clients are inventors, design and engineering consultancies or manufacturers of consumer goods, medical instruments, machinery and components for automobiles.

We support the CAD development of metal that is formed, cast, machined, or consists of fabricated sheet and injection moulded or formed plastics. Our CAD experience and knowledge includes advanced surface modelling, construction of parts and assemblies, production and instruction drawings, reverse engineering and the output of data files for the production of parts and tools.

We support a number of software platforms so contact us to discuss your exact requirements.