



Creating and checking 3D CAD from existing artefacts

When no cad or drawings are available for a part it can be difficult to make use of modern manufacturing processes. To help with this situation, CRDM can advise and implement various techniques to reverse engineer components.

CRDM uses three techniques to produce a 3D cad file for manufacturing:

1. Reverse engineer by measurements and function. This process involves careful measurement of a component and detailed discussion with the customer about the function of the part. This data is then used to create a new clean 3D cad model from scratch, the advantage of this process is that any modifications or adjustments to the design are easy to implement with fully parametric cad model. The quality of parts subsequently produced can also be increased as surfaces and feature definitions in the cad data are clean and noise free.

2. 3D Scanning of existing part. When a component or artefact has a complex shape (particularly organic forms) or surface textures, 3D scanning provides a quick and high definition method of capturing the form of an item. CRDM and our expert partners in 3D scanning can scan a wide range of items from large statues (or even the side of a building) to small items of jewelry. Once the item has been scanned, the resulting point cloud data must be processed and converted into an appropriate cad format. This conversion process to a usable cad file is often the longest part of the process, our partners use the latest software to make this as efficient as possible and to get the most accurate result.

3. For the ultimate scan of a component CRDM can use a CT (Computerised Tomography) scan to investigate both the internal and external structure of a part to an incredible level of detail. This is particularly useful for ALM parts with complex internal structures that need to be verified. Please call to discuss your requirements.