Stellenbosch University CT Scanner Service Facility

Computed Tomography (CT) scanning for the Manufacturing Industry

Introduction

Micro CT Scanning is a mature technology that uses x-rays to look inside objects in full 3D, to precisely locate defects, to calculate void volume (porosity) and generally to get a good 3D view of the inside of objects. Similar to x-ray inspections, but providing a more detailed view, this can be very useful to optimize manufacturing processes and for general quality control in production. The applications are in a variety of industry sectors from metal castings, welding inspections, forged components, to composite plastic and wood products, to inspecting used parts for cracks and other defects.

Examples for manufacturing

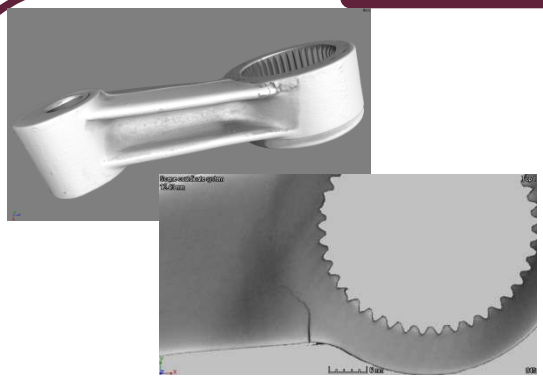

Figure 1: *CT Scan of an aluminium lever with a crack*

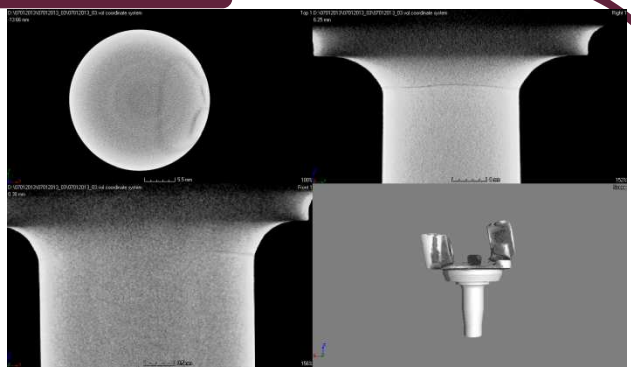

Figure 2: A cracked Jaguar CV Joint with slice views to image to crack (dark line)

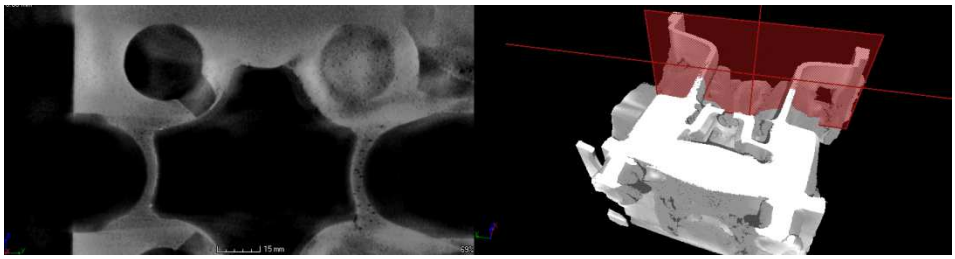

Figure 3: Imaging porosity in a casting

Some examples are shown here which demonstrate the power of the technology for imaging of a crack in a mechanical winding lever (Figure 1) and a cracked Jaguar CV Joint (Figure 2). An example of porosity imaging in a casting is shown in Figure 3. The slice is shown to the left, with the corresponding slice plane shown in red in the 3D view to the right.

How to get started

We offer a **fast turnaround**, low price, high quality service.
Parts can be physically **delivered to our lab via courier**, details can be discussed in person or over phone and pricing is based on hourly rates from R1500 per sample for a simple scan. Quotations are free.
Output can be in the form of TIFF, BMP or STL files, or full volume files or image stacks for client self analysis. Furthermore, we can offer standardized inspection reports customized to client needs.
***Sample size**: Up to 700 mm high, 300 mm diameter, BUT the smaller the better, resolution always better than 0.16 mm, but for small samples down to 1.5 microns is possible (sample size in that case 1.5 mm cylinder). For more information please visit www.sun.ac.za/ctscanner or www.sun.ac.za/caf*

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SOUTH AFRICA already has CT scanning for the best manufacturing

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