

The use of 3D Scanning in the turbine blade industry.....

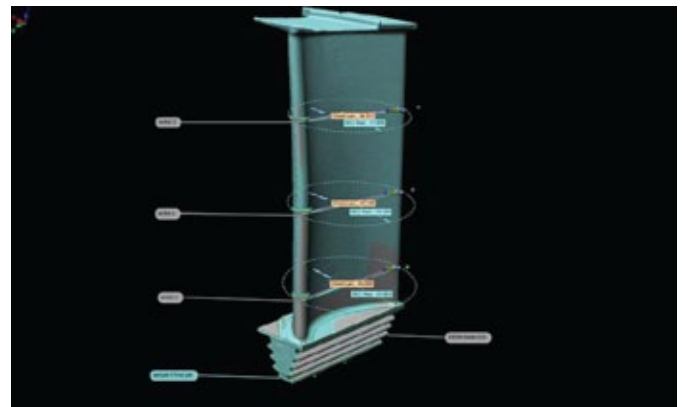
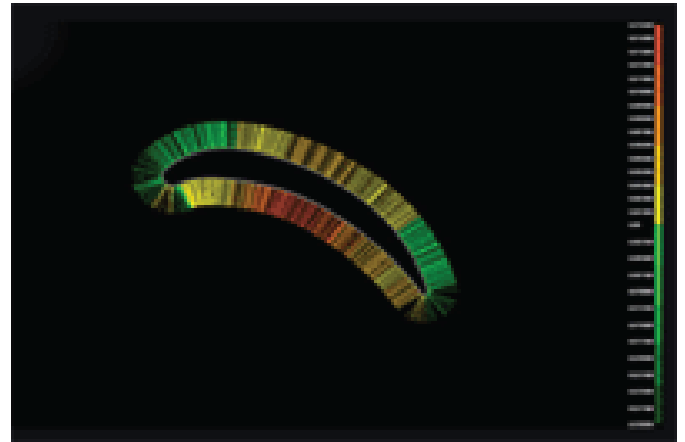
For many years now, the turbine blade manufacturers and re-manufacturers have been synonymous with the quality manufacture through a full spectrum of applications.

Most turbine applications – from aero-propulsion to power generation – demand extreme reliability; and because of their original equipment cost they demand high utilisation - often in extremely harsh operating conditions.

Over the past ten years the blade industry has evolved, and with the explosion of turbine applications within the power and energy markets, 3D scanning technologies have been highly influential. The equipment required is non-contact, ranging from laser scanners to photogrammetry systems, collecting from 20,000 points per second to 4,000,000 points per capture, dramatically reducing the time required to scan a turbine blade from days to minutes and with the addition of the PolyWorks Airfoil Gauge module, the blade manufacturers and re-manufacturers have the ability to create blades, adjust them on CAD and scanned parts, fit camber lines, extract all measurements required, and visualise and report these measurements.

With the bureau offering the technology in-house, so that costly capital expenditure is not a requirement, the engineers are able to scan, inspect and/or reverse engineer the whole process prior to manufacture. And with the additional module from InnovMetric PolyWorks available through 3D Scanners UK, the industry has all the tools at its fingertips to ensure the process is both accurate and fast.

As a consequence measurement efficiency is improved which in turn contributes to overall productivity improvement – job done!



The end result is a fully manufactured turbine blade in weeks rather than months. 3D Scanners (UK) Ltd have been instrumental in this time of change for the industry.