

Vision Processing for measurement, inspection and evaluation

Roke's extensive expertise in vision processing, coupled with a toolkit of algorithms, enables us to provide customers with tailored, visual processing solutions.



Why use vision processing?

Human sight is a powerful tool for inspecting parts or equipment during manufacture, test and operation. Whilst this is often very effective, people are unable to concentrate for long periods, and manual inspection significantly impacts manufacturing costs.

Vision processing enables consistent measurement and inspection at speeds which vastly exceed manual tracking.

Key Benefits:

- Greater visual acuity leading to more accurate detection
- More reliable measurements
- Higher product quality and productivity, specifically in manufacturing applications
- Option to include more inspection stages leading to earlier fault detection and fewer wasted process steps

3D Visual Measurement

Roke focuses on specialist applications that are not served by standard off-the-shelf systems. One area of expertise is 3D visual measurement which allows complex parts to be inspected.

Many manufacturing inspection systems use static images. However, considerably more information can be extracted from using continuous video, for example, building 3D models as an object moves, or using motion to provide greater resolution. This approach enables manufacturing faults to be detected reliably and accurately through tracking the product under varied lighting and perspective.

What Roke offers

We work closely with our customers to understand their needs. We then develop a bespoke vision system based on our existing toolkit of algorithms, making refinements and adding new features where required.

We can provide full systems, usually running on PCs or other off-the-shelf hardware, complete with user and any other required interfaces.

We supply full support as required, both during commissioning and through the system's operational life.

Experience

Roke has provided solutions for some of the most challenging measurement and inspection tasks.

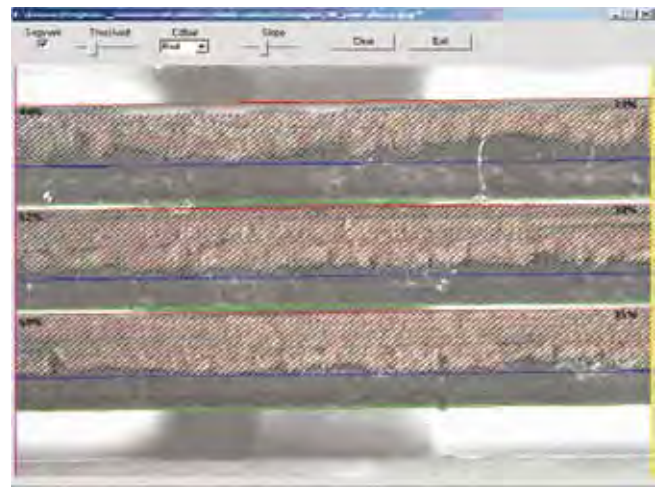
Examples include:



The detection of cracks on a train pantograph carbon conductor bar



The tracking of an ejector seat and a manikin during testing



Measurement of the wear in a series of cutting blades



Detection of faults in manufactured components

Excellence through innovation

Roke Manor Research takes its name from the 19th century Manor House which forms part of our 22-acre site in Romsey, Hampshire, UK. After acquiring the Roke Manor estate in 1956, the Plessey company established Roke Manor Research as a military electronics research establishment. Initially staffed by just 28 engineers, Roke was primarily involved with MoD projects such as electronic warfare and radio research.

Throughout the 1960s, 70s and 80s, Roke's portfolio of work grew considerably as the company's reputation in the defence arena attracted key technology contracts for the commercial sector, particularly in the telecommunications sector.

Today, Roke continues to grow and evolve. Employing some of the world's finest engineers and scientists and providing a unique breadth of services, skills and capabilities, we are repeatedly called on by our customers to resolve the most demanding problems. We have grown to a £45m business employing over 470 staff and today boast an international reputation as a leading provider of innovative solutions and contract R&D in both the commercial and defence arenas.



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