

INSPECT 3D

Real-time 3D surface reconstruction and measurement

USAGE

- Simple and intuitive 3D Camera setup & control
- Integrated with a powerful mini-PC and touch screen display
- Autonomous data archiving and management
- Live streaming for remote monitoring

CAMERA

- High quality Mega Pixel image acquisition and archiving
- Option to share raw RGB imaging directly with 2D & 3D image analytics & AI

BENEFITS

- Fully integrated with the APERTURE 3D Visualisation, 3D Surface Reconstruction and 3D VR viewing
- Cost effective system that saves time and money by enabling easy and efficient inspection

The Observant Inspect 3D System

INSPECT 3D is a non-contact high resolution digital imaging inspection and measurement system. It is portable, single operator, and works in real time.

To achieve this requires the acquisition and processing of very high-resolution digital imaging of a target surface feature or defect. From this INSPECT 3D empirically recreates a 3D model of that surface.

The Challenge

It is fundamentally important to have the right tools for the job.

For accurate 3D surface reconstruction and inspection this includes an easily deployable 3D spatially accurate camera system that can acquire informationally rich 3D photographic imaging as required.

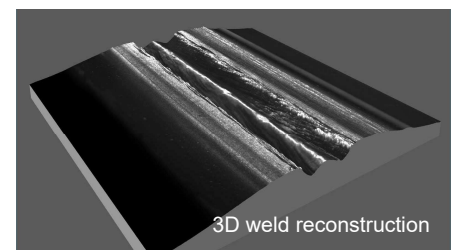
In many industries it is now also a requirement that the acquisition processes do not require surface preparation or camera system surface contact.

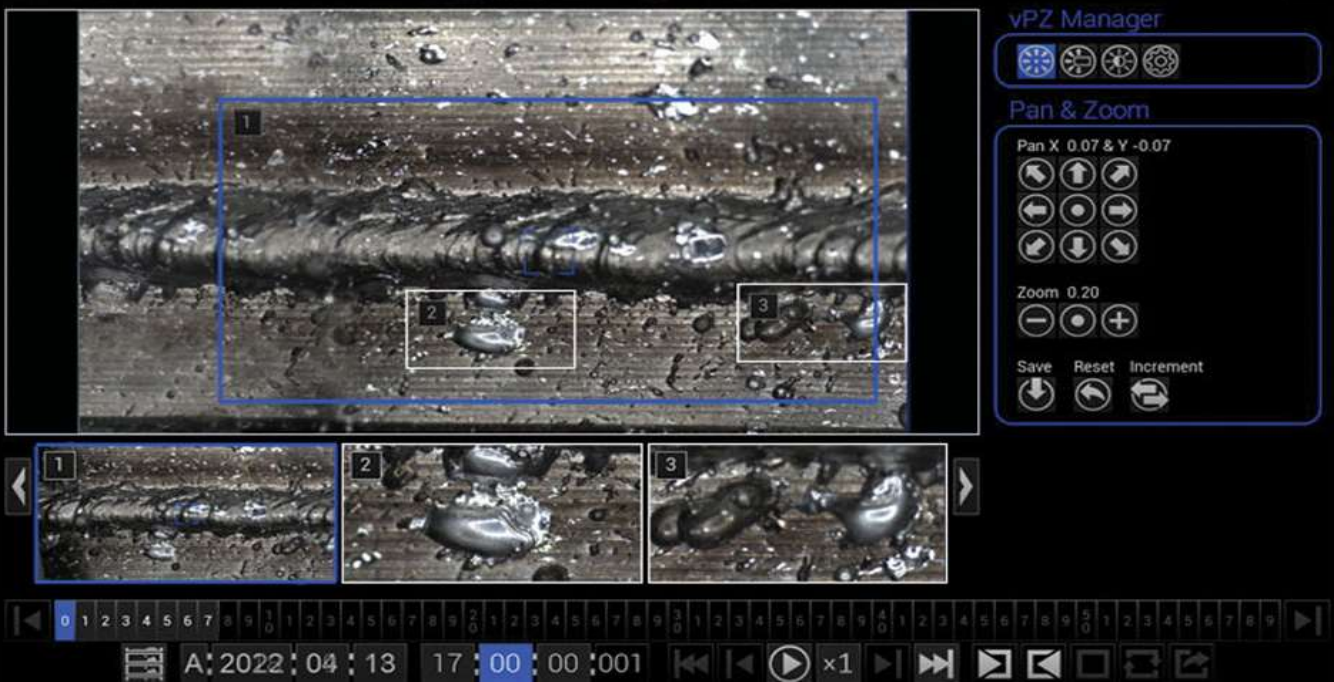
The Solution

The Observant APERTURE Imaging Workbench provides the framework and facilities for INSPECT 3D, including 3D surface acquisition using either a machine vision camera or by progressively acquiring data from a laser line scanning system.

The speed of the acquisition process is dependent on factors such as resolution and surface complexity. Typically, a 3D surface can be acquired in less than a minute.

3D surface data can be archived and retrieved for later examination, metrology, and analysis. Understanding is enhanced by 2D & 3D analytics and image processing, all independent of the camera imaging acquisition and archival.





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INSPECT 3D Camera Application

Once configured for a specific class of 3D surface, it is a fully autonomous system with every aspect of its functionality managed by the APERTURE platform. Provides real-time 3D surface meta-tagging, visualization, exploration, interactive digital lighting and measurement.

INSPECT 3D Review Application

Provides access to archived INSPECT 3D digital time-based data sets, organized by location, group and individual ids. It also provides an extended analysis and measurement toolset, plus access to integrated 3rd Party specialist Deep Learning functionality.

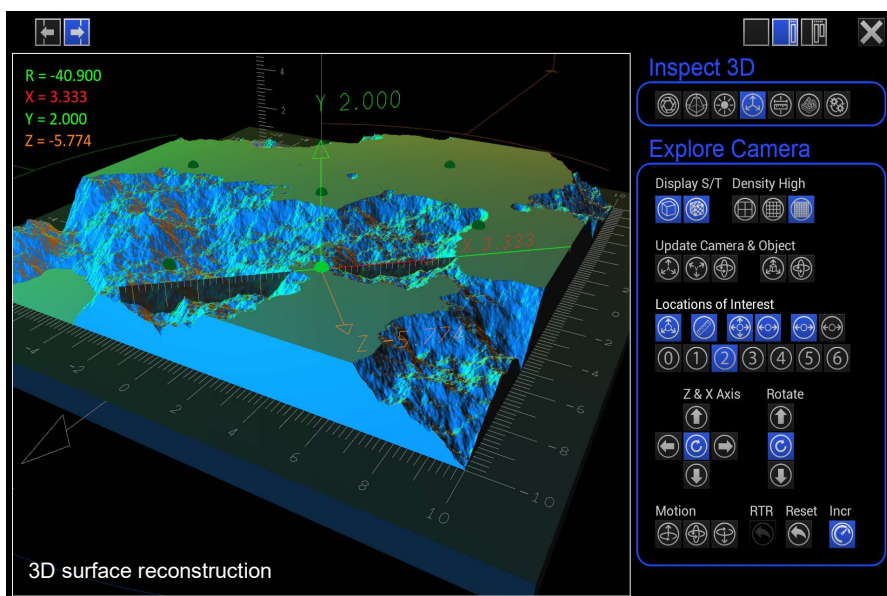
Key Information

- Colour or B&W sensor.
- Can also be used with polarising sensor
- Optional use of a laser line scanning sensor
- High-speed USB 3.1
- High quality, including 8, 10 & 12 bit imaging.
- High Resolution

System includes:

- Local or network archiving
- Fully configured and pre-loaded high-performance Windows 10 or 11 PC
- Integrated lighting

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Multiple independently controllable 3D views and interactive lighting allow for excellent contextual understanding by providing overview and zoomed-in detail.