

SCAN3D™

IMMERSION Scanner

FAN BLADE IMMERSION SCANNER

SCAN3D™ a turn-key Immersion Scanning System designed for Ultrasonic Inspection of complex 3D parts such as Composite Fan and Blades. Combined with TecView™ 3D and our Gimbal/Gimbal manipulator, Scan3D™ revolutionizes the ultrasonic scanning process.

With Scan3D™, C-Scans are performed using part's **CAD files** in Through-Transmission and Pulse-Echo simultaneously. Results are displayed on the imported **3D models** for analysis. Scan3D™ allows you to perform advanced **contour following** inspection of any **curved part**. Users can combine automated **teach and learn** and complex **3D contour following**. A typical configuration consists of **10-axis immersion tank** with 2 independently controlled X&Y carriages, 2 Z-axes, 2 fully automated Gimbal/Gimbal.

AIRCRAFT ENGINE FAN BLADE INSPECTION SYSTEM



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TecView 3D™

TecView™ 3D generates a scan plan using a 3D drawing of the part enabling complex 3D contour following to be performed. TecView™ 3D requires a step file in order to import the part geometry which is a common file type of all major CAD software packages.

AEROSPACE APPLICATION:

Fan Blade Inspection

Once the blade is placed in the SCAN 3D scanner the CAD module is loaded and the system is auto-calibrated to confirm the blade position.

Using the interactive tools for part entry, the user defines the scan surfaces and performs a complete 3D Scan.

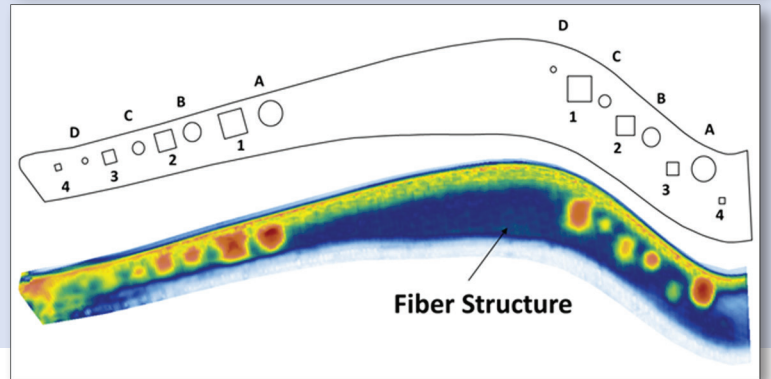
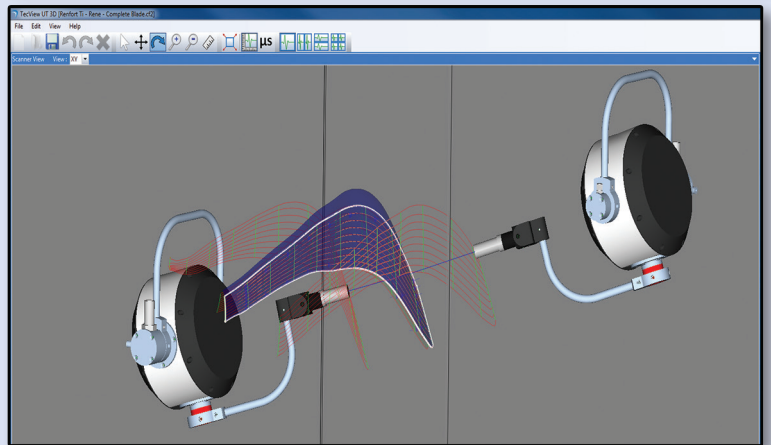
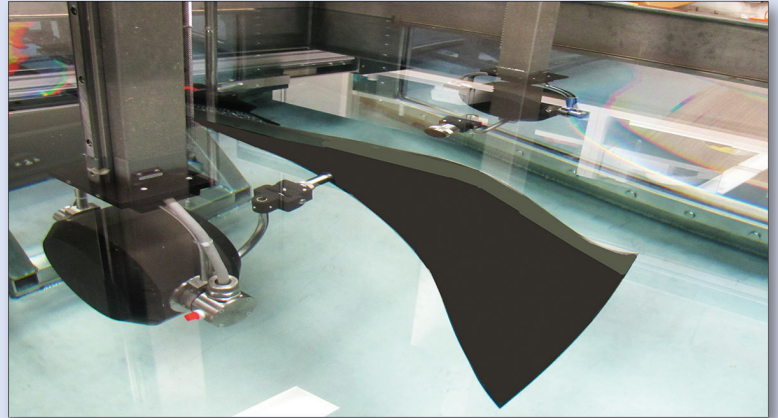
During the scan, the 3D trajectories are displayed on the screen with the animated Gimbal manipulators and the blade. Through-Transmission and Pulse-Echo C-Scan results are displayed in real-time.

Typical results are illustrated on a sample composite fan blade containing simulated disbands between the titanium leading-edge and the composite blade. The C-Scan was obtained in through transmission mode.

System Features

- Easy manual Teach & Learn with remote control pendant
- Part geometry extraction from CAD drawings
- Probe movement animation along part
- Automatic generation of the motor path at a given distance and angle from part
- Sound path calculations for through transmission inspections
- Automatic positioning of imported scan plans
- Interactive tools for part entry
- 3D display of results

TECVIEW™ 3D



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