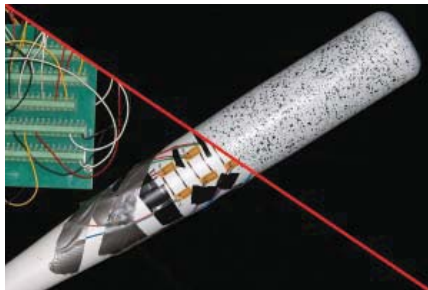
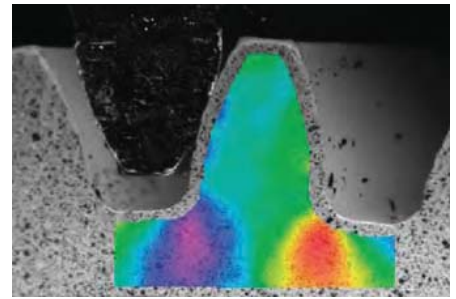


# Deformation Measurement

by Correlated Solutions

## Full-Field Measurements

- Allows you to see deformations over an entire area
- Measurements are not limited to single points
- Helps you to easily identify critical points, even in complicated structures or under complex loading conditions
- Data can be extracted from previously unrecognized hot-spots without retesting

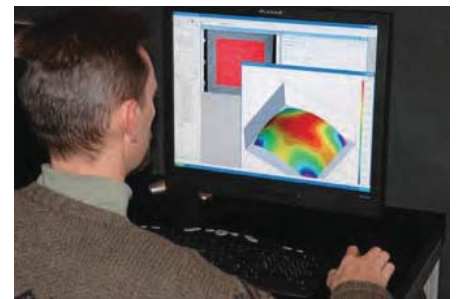


## Non-Contact

- Eliminates strain gages, lacquers, gratings and cumbersome wiring
- No mechanical interaction with the sample
- No need for precise placement in order to get valid results
- No influence upon vibrating specimens
- Samples can be prepared in minutes and measured without undesirable influence from clips, gages, or chemical coatings

## User-Friendly

- Safe, simple white-light illumination
- No optical isolation table needed for accurate measurements
- System can be recalibrated mid-experiment
- Automated data processing frees up valuable time
- Can cut and paste 3-D graphs into MS-Office applications
- System can be set up and ready to use in minutes



## Complete

- Includes all necessary equipment, including the computer, camera(s), data-processing software and fixtures
- Runs on Windows operating systems
- Includes visualization tools for graphing data
- Minimal training and quick start-up allow for a quick Return on Investment

The Correlated Solutions VIC-3D measurement system can save you valuable time while improving the quality of your deformation or strain measurements. Specimen preparation is simple and quick, and your test specimen is not affected by the measurement process. It might sound too good to be true, but it has been field-proven by professionals like you. Give us a call to find out how you can do better work in less time than you ever thought possible.

[www.correlatedsolutions.com](http://www.correlatedsolutions.com)

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SOLUTIONS

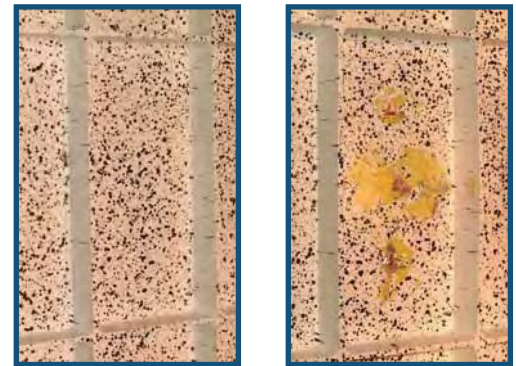
# Application Example

## Airbus Structural Damage Assessment

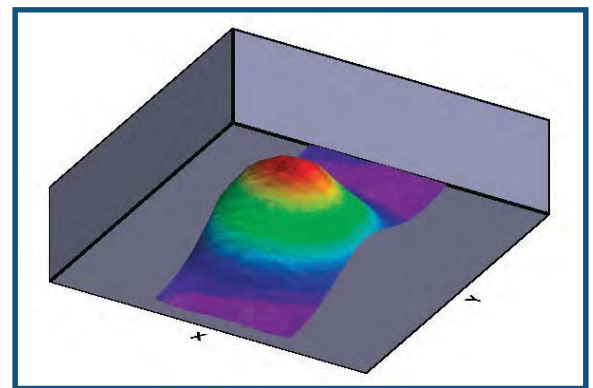
Airbus has built a reputation for innovative aircraft, recognized around the world for their safety and efficiency. All of these attributes are driven by a top-notch testing program, whose innovative practices are evidenced by their use of the VIC-3D measurement system.

One of the goals of the Airbus testing program is to characterize the structural damage caused by collisions between the aircraft and small projectiles such as birds and other ground based debris, and to ensure that the structural integrity of the aircraft is maintained. This type of event can be reproduced by firing a variety of different types of projectile at a piece of aircraft structure at a high velocity. The results obtained can be used to compare with computer models of the structure under impact loads, leading to more highly optimized and safer designs.

Dr. Richard Burguete, experimental mechanics specialist at Airbus UK since 1997, explains the benefits of this approach as follows: “The VIC-3D system allows us to be sure we have captured all of the relevant data, some of which might have otherwise been unobtainable.”



Before and After Images of a Spar Like Structure



Deformed Shape Plot from VIC-3D

## Specifications

	VIC-3D SR/HR/XR	VIC-3D CL	VIC-3D HS	VIC-3D U-HS
<b>Camera Resolution</b>	Up to 29 Megapixels	Up to 4 Megapixels	Up to 4 Megapixels	400 x 250 pixels
<b>Frame Rate</b>	Up to 110 fps	Up to 500 fps	Up to 300,000 fps	Up to 10,000,000 fps
<b>Exposure Time</b>	20µs – 10s	Down to 20 µs	Down to 368 ns	Down to 50 ns
<b>VIC-3D Data Variables</b>	3D displacements, strains tensors, strain rates, velocities, accelerations, and much more			
<b>Analog Data Recording (inputs)</b>	Up to 32 inputs	Up to 16 inputs	Up to 8 inputs	Up to 2 inputs
<b>VIC-3D Full-Field Real-Time Analysis</b>	Yes, up to 10Hz	Yes, up to 10Hz	n/a	n/a
<b>VIC-Gauge 3D Real-Time Analysis (output of points, gauges, extensometers, etc.)</b>	Yes, up to 100 Hz Up to 4 real-time analog outputs	Yes, up to 100Hz Up to 4 real-time analog outputs	n/a	n/a
<b>Camera Disturbance Correction</b>			Included	
<b>Multi-System Stitching (requires multiple camera systems)</b>			Included	
<b>Marker Tracking</b>			Included	
<b>Measurement Area</b>			mm <sup>2</sup> to m <sup>2</sup>	
<b>Strain Measurement Resolution</b>			50µε	
<b>Strain Measurement Range</b>			0.005% to >2000%	
<b>VIC-3D HS Vibration Analysis Module</b>	Available with VIC-3D Fulcrum	Available	Available	n/a



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