Mobius' enhanced features are the culmination of many years of development in Imetrum's three-dimensional displacement measurement capability. This, in combination with class leading accuracy and resolution, means it offers the most data rich output of any comparable 3D Digital Image Correlation system.

Suitable for precision measurement, product inspection and real-time monitoring, Mobius is supplied as a fully-integrated, pre-calibrated unit that requires very little additional set up from its user in order to provide highly accurate, 6 degrees of freedom (DOF) coordinate information. Mobius is easy to use, very robust and reliable.

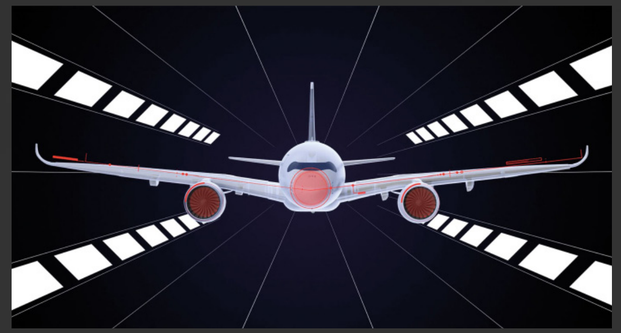
It can be used in both challenging and sensitive environments due to enclosed camera pods protecting the cameras from external influence, simplified cabling and a range of robust mounting options.

It's also extremely accurate, with better than 1/10 micron accuracy throughout the measurement range, even in poor lighting conditions. And because the raw video and data from each test are stored, the information recorded can be analysed offline using alternative measurement points – even if not defined during the live test, to maximise the productivity of test and measurement.

Effortless Setup & Configuration

Mobius is supplied with a factory calibrated measurement volume ensuring that user calibration is not required. User validation tools allow the user to determine system measurement accuracy whenever required.

- Eliminates user calibration
- Ensures quick and simple user setup
- Repeatable and accurate measurements
- Measurement volumes from 0.5m$_3$ to 7m$_3$ with a single head
- Multiple heads can be synchronised to achieve larger measurement volumes
- Application specific volumes and working distances available to order



Measurement Versatility

Mobius is suited to a wide range of applications across many industrial sectors such as:

Automotive & Motorsport

+ Wind Tunnels & CFD Validation
+ Vehicle Kinematics & Compliance Systems
+ Chassis Stress & Strain Testing
+ Subcomponent & Assembly Testing

Aerospace

+ Aerodynamic FE Model Validation
+ Wing Performance Testing
+ Subcomponent Stress & Strain Testing
+ Blast & Impact Testing
+ Composite Material Testing

Industrial / Process Plant

+ Structural Stress & Strain Measurement
+ Material Testing
+ Vibration Impact Testing

Civil Engineering

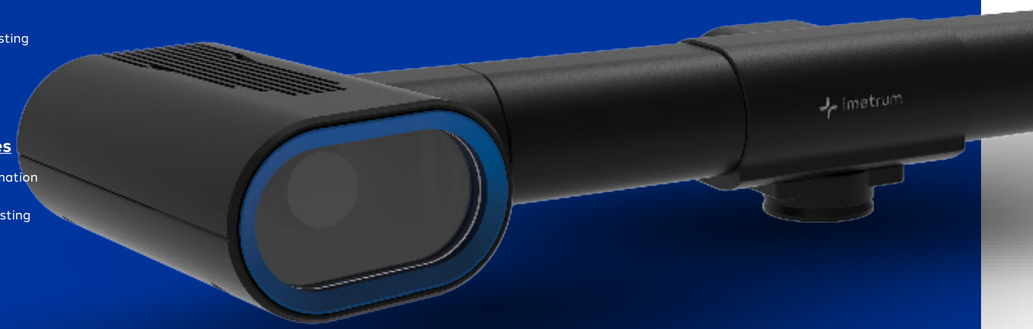
+ Dynamic Load Testing
+ Structural Response Testing

Advanced Materials Research

+ Materials Science
+ Bio-mechanical Research

Energy / Renewables

+ Tank & Pipework Deformation
+ FE Model Validation
+ Composite Structure Testing
+ Turbine Shaft Dynamics



imetrum

Mobius

Real-Time 3D Measurement

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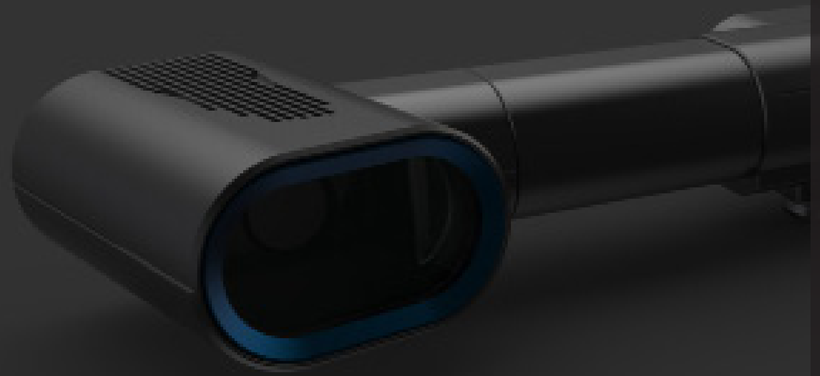
Introducing Mobius

High precision, non-contacting, real time 3D displacement measurement system.



Accuracy

Better than 0.1 microns, at real-time measurement rates of up to 500 hertz.

Tolerance

Tolerant of low and variable lighting conditions.

Durable

Rugged design for use in real industrial environments.

Effortless

Pre-calibrated optics and ready out of the box.

Benefits of a Mobius System

Utilising non-contact digital image correlation techniques, Mobius eliminates the challenges of traditional contacting sensors, for example:

- NO sensor mounting brackets and frames needed
- Excessive and burdensome wiring eliminated
- NO risk of sensor damage should test run to material or structure failure
- NO conflicting sensor, software and communications standards
- Measurement interference by the sensor itself eliminated
- NO mismeasurement risk from incorrectly installed sensors

Mobius is a highly effective alternative to traditional displacement sensors such as LVDTs, DTIs, EDMs, encoders, laser trackers and potentiometers in a wide range of applications:

- Component acceptance testing
- Component stiffness and deformation measurement
- Mechanical compliance measurement in bearings, coupling and fastenings
- Measurement of static and dynamic behaviours of materials and structures
- Measurement of delicate components
- Measurement in environments where contacting sensors don't work – e.g. furnaces
- FE Model validation and CFD correlation

Harnessing The Power of Video Gauge™

Mobius uses Imetrum's Video Gauge™ software which incorporates a range of mathematical functions for analysing the behaviour of the component under test.

Key Features:

- Unlimited measurement tool sets (Position, Displacement, Distance, Strain, Rotation and LVDT)
- On-board Post Processing capability
- Full Field 3D compensated Strain Maps as standard (eliminates distortion created by Z-direction movement)
- New advanced capabilities such as Rigid Body Motion and Unified Coordinate System
- Automated Calibration and Validation Wizards aid ease of use
- 3D distances in image supports automatic recognition of the calibration device in field of view
- 3D validation wizard allows user validation of the Mobius optical head

Embedded Advanced Functionality

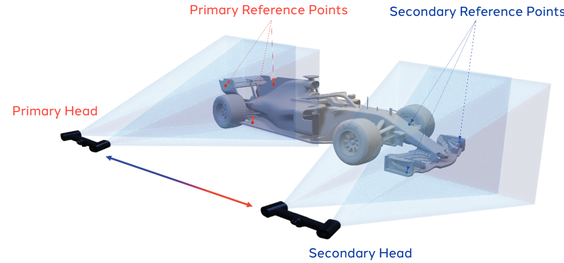
Unified Coordinate System

Mobius allows up to three optical heads to be connected together via a single high-performance controller. The co-ordinate reference data from the primary head can be shared to the secondary head(s) upon which their measurements will be based.

Importantly each head does not need to share a visual reference point within an overlapped field of view.

Post processing of tests utilising a Unified Coordinate System is also possible by capturing the primary and secondary reference point data during the live test run.

Real-world primary head reference data creates the global coordinate reference for both heads and the secondary head reference points are shared to primary head during the zero-set period.



Rigid Body Motion Correction

Mobius allows three-dimensional displacement measurements of a target reference to be captured relative to a secondary set of reference points. Should the secondary reference points also move during the test, the algorithms automatically compensate for this motion when determining the relative movement of the target.

For example, an aircraft winglet is measured relative to the fuselage of the aircraft. Without Rigid Body Motion Correction all measured displacement of the winglet would be attributed to the winglet itself even if most of that movement is caused by the pitch, roll or yaw of the entire aircraft.

With Rigid Body Motion Correction enabled, only the relative movement between the winglet and the fuselage is captured.