



Mercury RT[®] Software Modularity

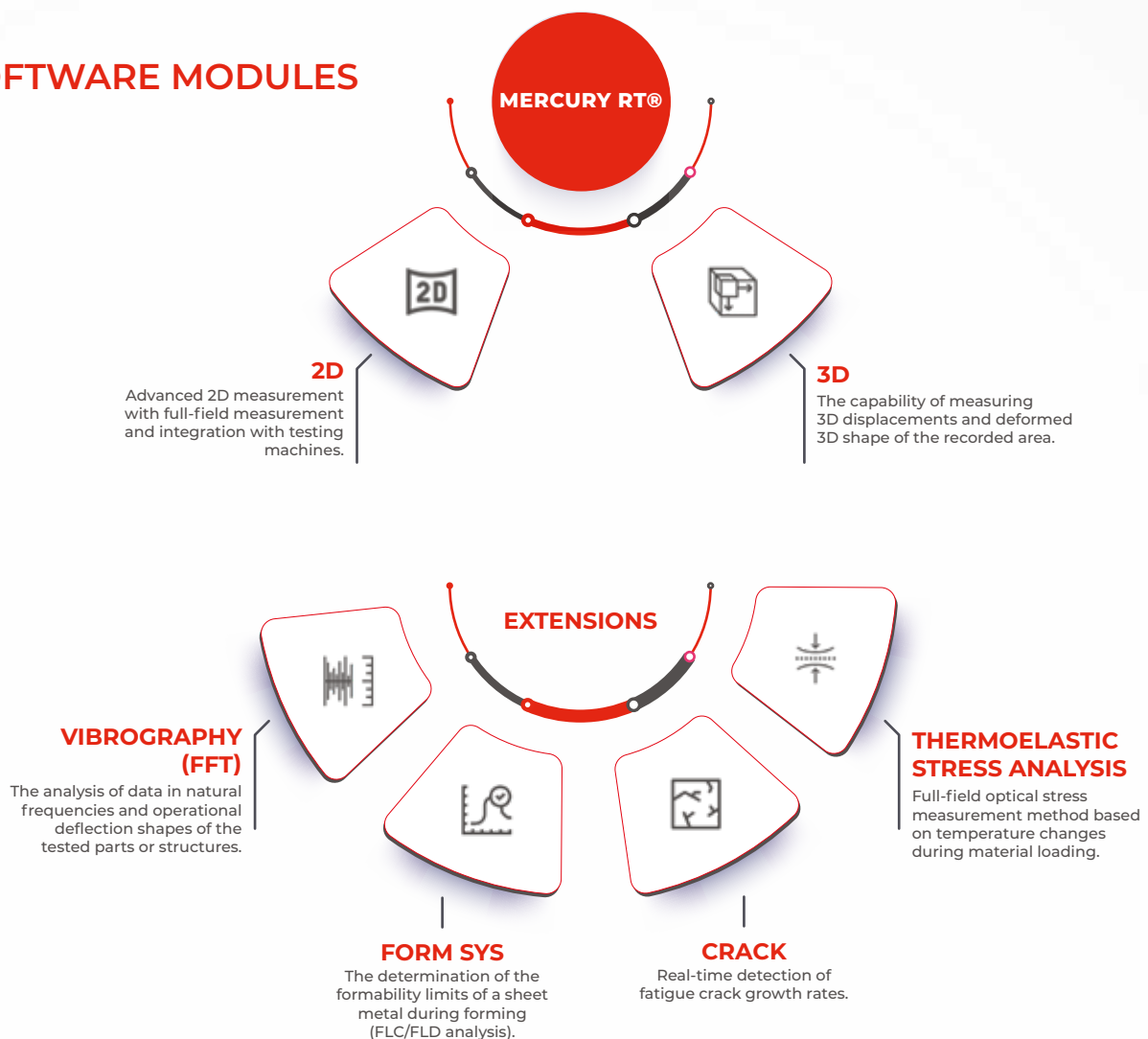
Flexible **Non-Contact** Measurement System for Complex Analysis of Deformation and Displacement of Static and Dynamic Events

OPTICAL STRAIN AND DEFORMATION MEASUREMENT SYSTEM

Mercury MS, s.r.o., a software company based in the Czech Republic, is bringing you the best solution for non-contact material measurement. Our masterpiece is called Mercury RT®.

Mercury RT® is state-of-the-art software designed as a flexible modular system for non-contact measurement and complex 3D analysis of deformation and displacement of static and dynamic events using the Digital Image Correlation (DIC) technique. With Mercury RT®, you can benefit from advanced features such as measurement of high strain rates, high-speed testing, vibration measurement, FEA analysis, and crack propagation assessment. We build a software technology that delivers the solution to all challenges of your optical measuring requirements and advanced analysis technologies with current market trends.

SOFTWARE MODULES

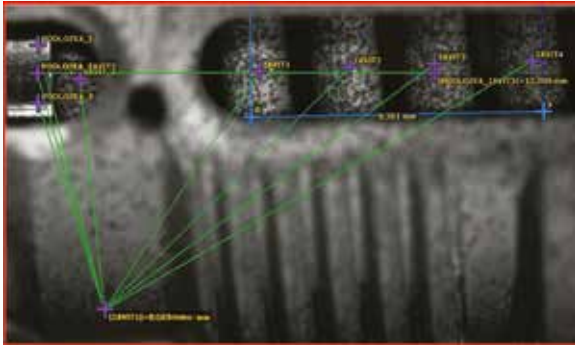


The general software versions of Mercury RT are divided into **2D** and **3D**.

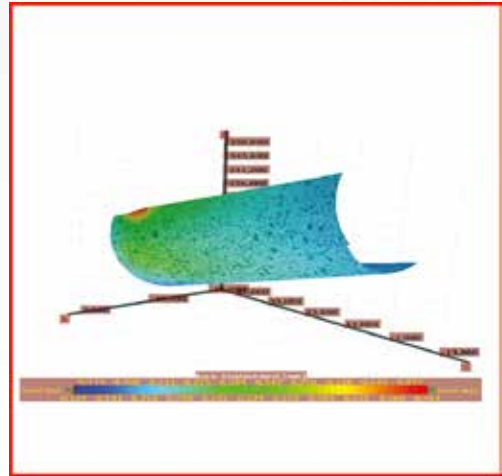
The 2D version allows e.g. to perform deformation and flow field measurements, to use high speed cameras and to integrate with testing machines. **The 3D version**, compared to the 2D version, allows the use of multiple cameras in stereo pairs to provide more advanced deformation measurements.

Additional **extensions** can then be added to enhance the system with additional capabilities such as the ability to measure crack propagation, measure vibrations, determine formability, or detect temperature changes during mechanical loading of specimens.

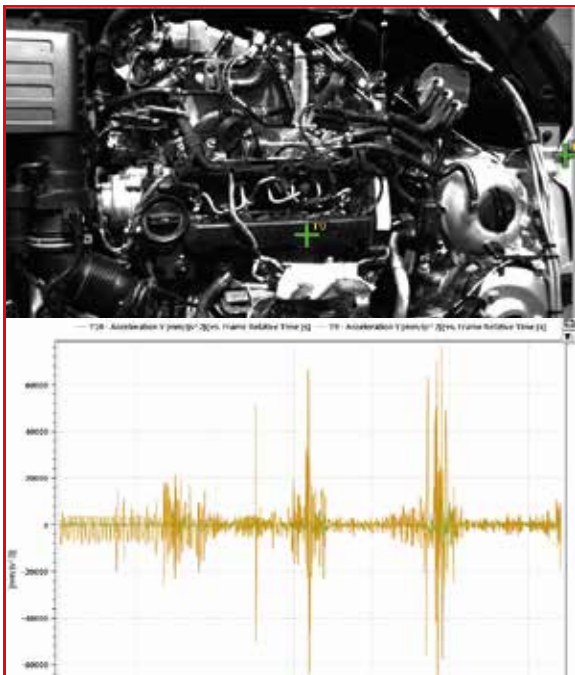
APPLICATIONS SAMPLE



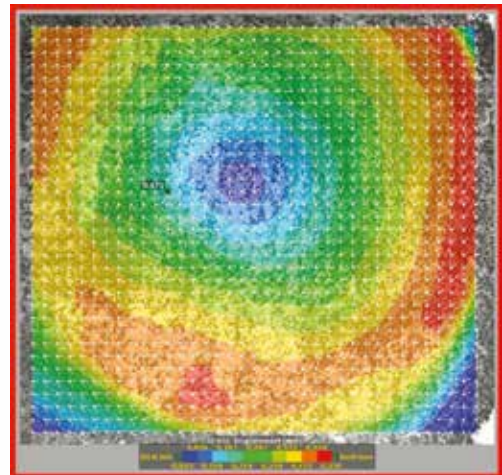
Turbo Engine - Point displacement test



3D mapping from 3D full-field Strain Analysis



Engine Vibration Test



Particle Image Velocimetry - flow visualization

MEASUREMENT AND ANALYSIS

Advanced **Material Testing** with robust and accurate methods for analyzing any specimen including metals, wires, foils, wood, composites, fabrics, nanofibrous structures, elastomers, tissues, plastic, biomaterials, cords, ropes, construction and ceramic materials.



MATERIAL TESTING

- 2D/3D Video extensometer (VEX).
- Extension and contraction measurement.
- Chain probe tool for rebar measurement.
- Neck gauge detection tool.
- Virtual strain gauge tool.



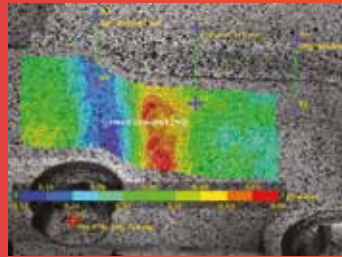
- Strain field map
- Directional displacement vectors
- Graph representation of desired values

Component Testing of complex components which can be stressed by force, pressure or high temperature with graphical presentation of results for easy interpretation.



COMPONENT TESTING

- Static, quasistatic, dynamic measurement.
- Full-field strain distribution measurement.
- High-speed camera measurement.
- Point and area measurement of motion.
- Sampling synchronisation with the dynamic and periodic events.



- Fullfield map of strains and displacement
- Motion removal
- Evaluation in 3D space

KEY FEATURES

- Both online (real-time) and offline analysis, where the computed values can be transferred as analog or digital outputs.
- Joint resolution of the standard system is within 500 nm and 5 µm, strain resolution can be up to 10 microstrains.
- Unlimited number of virtual measuring tools such as Line probe (extensometer), Point probe (motion sensor), Rigid Plane Probe, Chain Probe, Polyline Probe and Force gauge.
- Flow/motion field measurement applies to motion measurements with changing patterns and shapes, measurement of in-plane particle movement allows measuring displacement, velocity and acceleration, differential motion tracking and vector direction visualization.
- Ability to perform measurements using a natural speckle pattern.
- Camera integration - Mercury RT® supports a wide range of regular cameras, thermal cameras and High speed cameras.

TESS (Technical Support & Services) includes

- a customer portal that facilitates communication between the technical team and the customer
- customer training on new features, new modules explanation
- rapid technical support & quick bug fixes
- a free update to the new version

Why are we unique?

Mercury RT® Software was developed in collaboration with our customers, who inspire us to continually make it better and we understand their needs.

Our Technical team provides up-to-date measuring system with continuous software updates and features. In addition to providing measurement systems, we can deliver customizations according to your requirements. Mercury RT® supports various types of cameras manufacturers.

Local Distributor:

HEAD QUARTERS

<https://www.mercury-dic.com>



MERCURY^{RT}



Developed in the Czech Republic

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