



...adding a new dimension to motion measurement



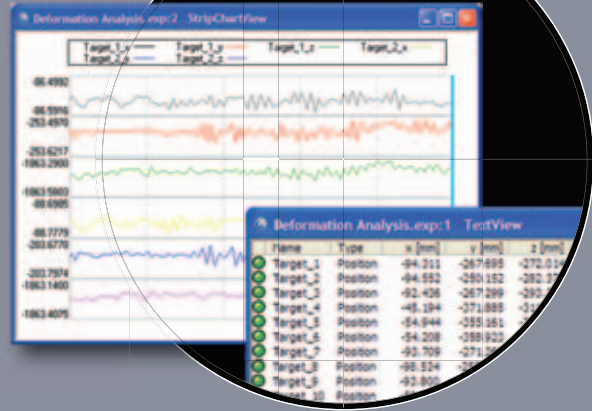
## Motion Measurement

# Dynamic Measuring Machine

Motion Analysis

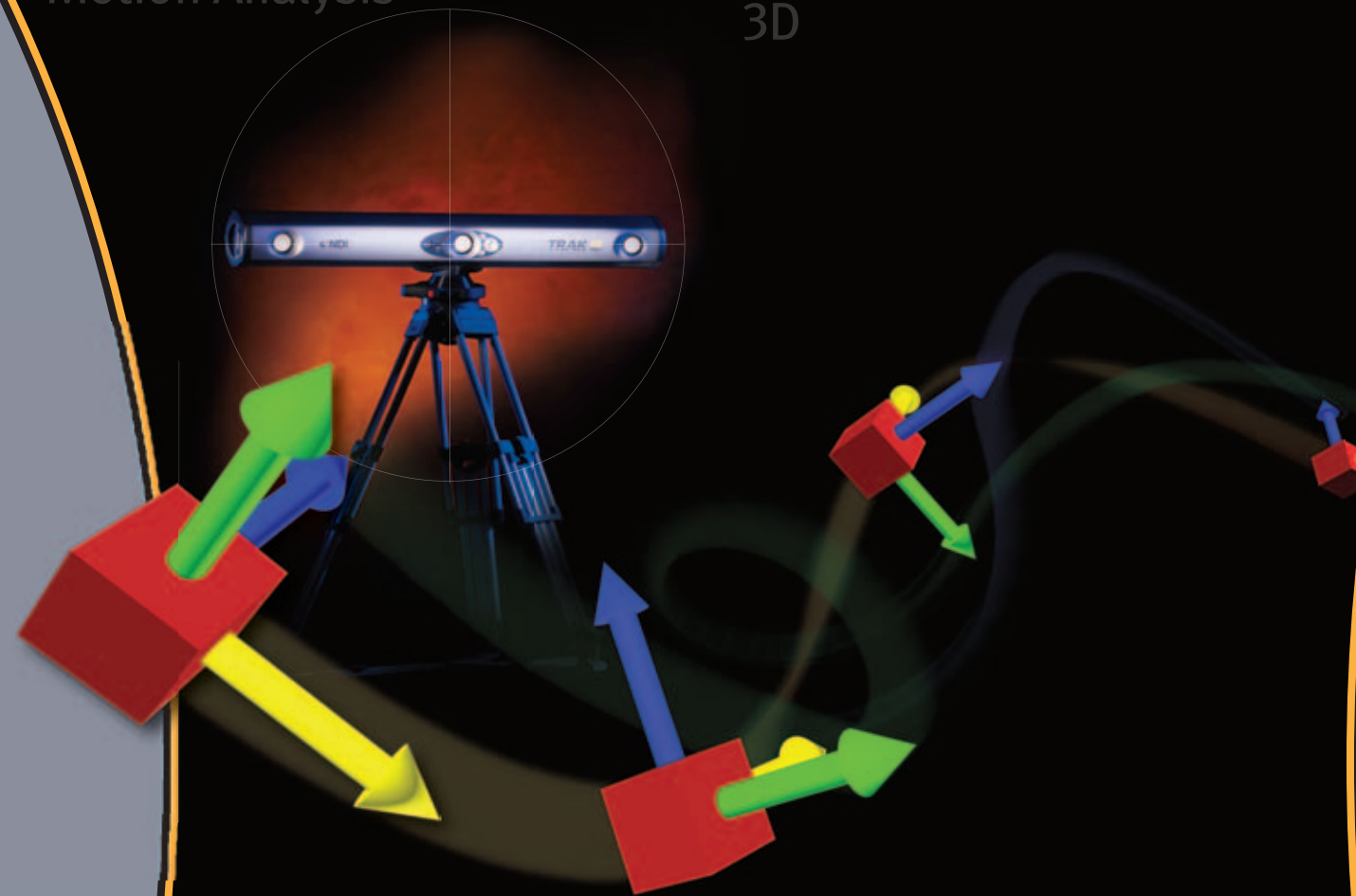
6DOF

3D



### OPTICAL TRACKER

The Optical Tracker uses high speed, real-time digital photogrammetry and optical triangulation techniques to track the precise 3D positions of targets over a large volume. This provides a non-contact method of determining the dynamic positions of many points of interest to capture complex motion. The portable design allows you to quickly conduct complex motion analysis wherever it is required, and the measurement volume can be greatly expanded using multiple synchronized trackers.



### TARGETS

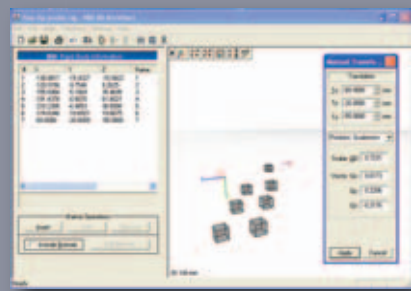
A target is a small, lightweight device that attaches to any object. The target defines a specific point of interest and a precise 3D coordinate when measured by the Optical Tracker. The system can track hundreds of targets in real-time, generating thousands of data points per second. When multiple targets are attached to an object, the system can track its motion in all 6 degrees of freedom. This non-contact method of target tracking does not influence the natural dynamics of motion, overcoming the limitations of conventional displacement sensors and accelerometers.

## Measure

- Vibrations · Traveled Paths · Velocities · Accelerations
- Displacements · Positions · Orientations · Deformations · Angles

For decades NDI has been the leader in real-time 3D optical tracking, developing the world's most powerful and capable Dynamic Measuring Machines for advanced motion analysis.

The ability to capture the fast, complex motion of many objects over large volumes with exceptional precision makes NDI the obvious choice for researchers, engineers and production staff in many different industries. DMMs use Optical Trackers to track specially designed targets that mark specific points of interest. The Optical Tracker's most powerful feature is the unique ability to track how 3D and 6DOF measurements change over time, adding a new dimension to industrial metrology. With exceptional resolution and range, the system is equally capable of measuring both the fine subtlety of small movements and the gross dynamic behavior of large motions. NDI's DMMs can also analyze and report data in either a fixed frame of reference or relative to another moving object's local coordinate system. This powerful combination of advanced features provides the most versatile solution available today. Discover the benefits of performing precise, time-based motion tracking of multiple objects in a dynamically-referenced coordinate system with NDI's Dynamic Measuring Machines.

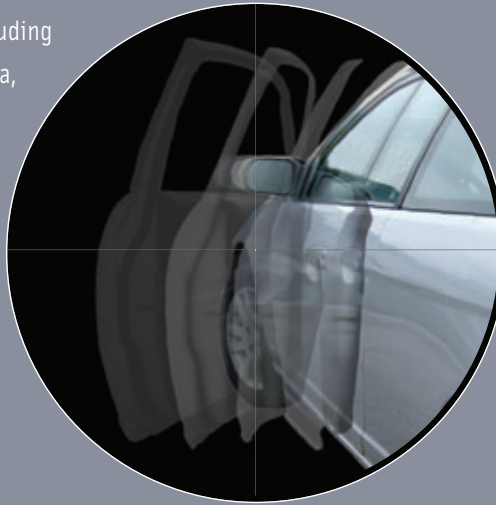


Advanced Time-Based Measurement

## FLEXIBLE, PORTABLE, POWERFUL

NDI provides a range of DMM software solutions, including simple applications that collect, display and transform data, a complete Software Developer's Kit, and custom-designed software. Innovative solutions and superior capabilities make NDI systems the ideal choice for advanced dynamic tracking applications, including:

- Part positioning and alignment
- Vibration analysis
- Part deformation
- Part dynamics
- Real-time feedback and control
- Structural testing
- Guided assembly
- Wind tunnel testing
- Door/hood/trunk closure testing



For over a quarter century, companies have trusted NDI as the pioneer in advanced optical metrology. With offices, dealers, and thousands of measurement systems deployed worldwide, the NDI name is synonymous with providing the right solution for the right job. NDI's new generation of portable metrology solutions has set a new benchmark for system accuracy, usability, and flexibility. If the need arises, our highly regarded customer support services will keep you up and running. As the world leader in innovative measurement technology, NDI has the knowledge and experience to provide the focused solutions and services you need.



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