The Shape Sensing Company Launches OmniShape, Its Next-Generation Fiber Optic Shape Sensing System

AUSTIN, TX, UNITED STATES, September 28, 2026 / EINPresswire.com/ -- The Shape Sensing Company (TSSC), a developer of fiber optic shape sensing technology for medical devices and robotic systems, today announced OmniShape, its next-generation system and the company's first platform designed specifically for OEM applications. OmniShape provides TSSC's customers with an embeddable platform designed to streamline integration of the hardware into their own equipment and real-time shape data into their software and data pipelines.



OmniShape - TSSC's new embeddable shape sensing system

OmniShape reflects more than a decade of shape sensing development and lessons learned across more than 20 deployed R&D systems. Those deployments helped TSSC better understand the performance, workflow, form factor, and integration requirements that matter most to OEM engineering teams.

Unlike tracking technologies that provide the location of discrete points, TSSC's fiber optic shape sensing technology continuously reconstructs the three-dimensional shape of a flexible device along its length. This gives navigation and robotic systems information about what the entire device is doing, not only where a tip or tracked marker is located.

OmniShape provides real-time 3D spatial data through an Ethernet-based software interface (API), with update rates of up to 150 Hz and support for TSSC sensors of up to 2.0 meters in length. The platform is designed to make it easier for OEM engineers to incorporate shape information into their own software and system architectures.

“We’ve spent years working with engineers who implement tracking solutions into real medical devices and robotic systems, and have successfully helped them integrate shape sensing technology,” said Ryan DeBoer, CEO of The Shape Sensing Company. “OmniShape incorporates what we’ve learned from those programs into a platform designed around the needs of OEM development and integration teams.”

The new platform combines a more compact architecture with Ethernet-based API access, higher data performance, and system control intended to support deeper integration into OEM platforms. It represents a shift from TSSC’s earlier stand-alone R&D systems toward a platform designed for development, integration, and embedded use.

TSSC sees applications for its technology across surgical robotics, endovascular navigation, endoscopy, electrophysiology, and other areas where flexible devices must be tracked or controlled inside the body.

OmniShape is now available in limited quantities for OEM evaluation and development.

TSSC will showcase OmniShape at LSI Europe in Barcelona alongside live demonstrations of its fiber optic shape sensing technology.

About The Shape Sensing Company
The Shape Sensing Company develops fiber optic sensing technology that provides real-time three-dimensional information about the shape and position of flexible devices. TSSC works with medical device manufacturers, robotics companies, and research institutions to integrate shape sensing into next-generation navigation, robotic control, and device intelligence applications.

For more information, visit www.shapesensing.com.

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