

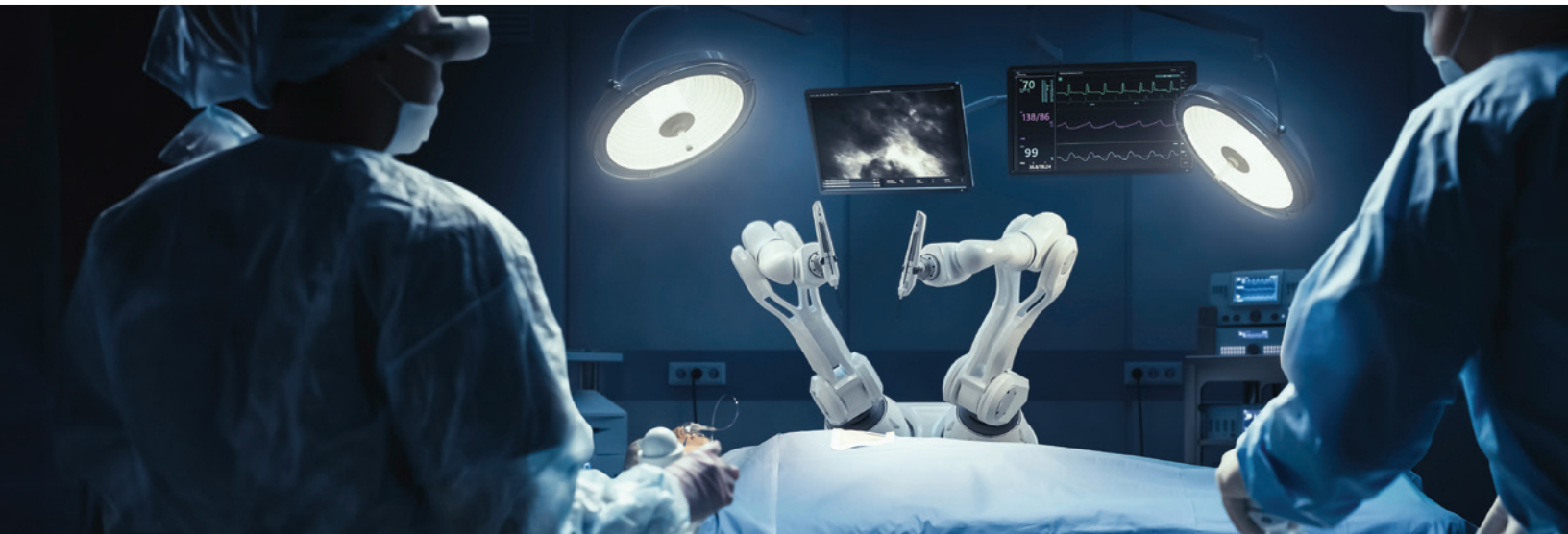


SURGICAL ROBOTICS

Ultra-Precise Perception System Calibration

To scale production calibration of a robot-assisted surgical platform perception system, an industry-leading manufacturer needed a motion solution they could trust.

THEIR GOAL: Develop a robust, ultra-precise, six degree-of-freedom (DOF) calibration system to meet production demands.



CHALLENGE

To meet their surgical robotic platform's complex calibration needs and production demands, the customer sought an ultra-precise, 6-DOF platform that could deliver the following:

- ◆ Extremely precise positioning of the sensor target in relation to perception system sensors, with nanometer-level incremental motion & 6-DOF pose control
- ◆ A user-friendly open control interface that allowed for integration of third-party calibration software
- ◆ High uptime requirements for a global 24/7 production environment

SOLUTION

Aerotech's engineering teams addressed these challenges with a solution that included:

- ◆ Ultra-precise hexapod with certified performance, capable of minimum incremental steps of 20 nm (linear displacement) & 0.04 arc sec (rotational displacement)
- ◆ Control system that easily integrated with third-party system calibration software & allowed for high-speed capture of sensor target pose
- ◆ Robust electromechanical hexapod with high uptime performance & limited preventative maintenance
- ◆ International product support for rapid deployment on two continents



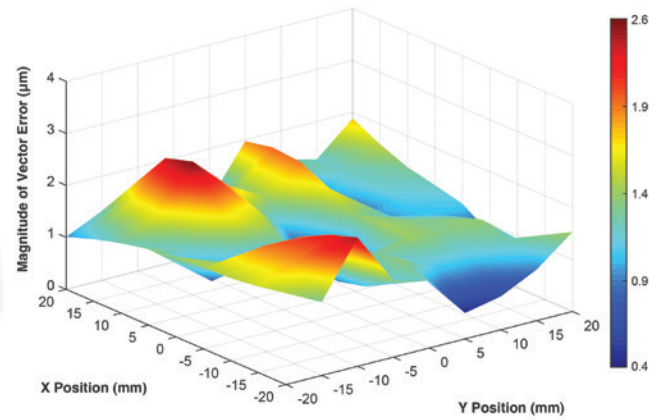
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Guaranteed Performance

When calibrating surgical systems in production environments, working from a verified source is paramount. Aerotech's HexGen hexapods provide guaranteed, calibrated accuracy. Rigorous product testing ensures this performance is maintained under loading conditions for the product's lifetime.



Aerotech HexGen hexapods offer the highest positioning system accuracy, and that performance is guaranteed with published specifications and performance plots.



Complex Control Made Easy

Coordinating 6-DOF motion to achieve a pose is challenging, and this customer brought an additional layer of complexity—performance requirements that demanded error mapping and correction features. Aerotech's Automation1 controller was more than up to these challenges, enabling ultra-precise 6-DOF motion and meeting high-speed data acquisition needs.

In addition to producing ultra-precise hexapods, Aerotech also delivers a high-performance control solution with powerful embedded tools – all so you can deploy your solution faster.

Global Support to Accelerate Your Speed to Market

In order to compete, speed to market is key. Aerotech's Global Technical Support resources are accessible 24/7, worldwide. Our experienced technicians know what it takes to get you up and running—fast! With this level of support, OEMs can accelerate their global deployments.

