

**CASE STUDY**






**65% Increase in Test Productivity for a Pioneer in AI and Computer Vision-Based Surgical Systems with iHarmony™ Embed Test Automation Platform**

**Client**

Our client is a pioneer in building hardware-agnostic surgical software by leveraging computer vision, AI, and robotics techniques. The software allows minimally invasive surgical systems (laparoscopes, arthroscopes, and robots) to collaborate with surgeons autonomously.

**Client Need**

The client's large form factor device has been optimized and reengineered to a small form factor to facilitate portability and real-time insights in the operating room. Hence, the client needed a test solution to ensure the KPIs of the device are achieved with the reduction in the physical size of the existing imaging system setup.

 <b>Test Attribute</b>	 <b>Test Goal</b>
 <p>Compute bandwidth</p>	<p>Glass-to-Glass latency of 150ms</p>
 <p>Device frame rates</p>	<p>USB Camera feed @ 120 FPS</p>
 <p>Performance level</p>	<p>Same as before</p>

## How We Helped

Innominds leveraged its in-house Test Automation platform iHarmony™ Embed to validate the Performance KPIs by developing automation test scripts for



Boot image, client IP camera, 3rd party camera, USB interactions, and external display



Computing processing speeds and glass-to-glass latency



Measuring video quality parameters, processing times, and multiple video comparisons



All the major business scenarios, UI validations, and integration workflows



KPI metrics like iozone, iperf, and stability to measure overall product quality like MTBF by integrating with open-source tools like ioZone, iPerf

## Results

65%

65% reduction  
in testing efforts

180+

Test automation  
development of  
180+ test scripts



Early detection of  
defects specific  
to the platform



Complete test  
coverage for  
customized board

## About Innominds

Innominds is an AI-first, platform-led digital transformation and full cycle product engineering services company headquartered in San Jose, CA. Innominds powers the Digital Next initiatives of global enterprises, software product companies, OEMs and ODMs with integrated expertise in devices and embedded engineering, software apps and product engineering, analytics and data engineering, quality engineering, and cloud and devops, security. It works with ISVs to build next-generation products, SaaSify, transform total experience, and add cognitive analytics to applications.