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Testing Ultrasound Probes Using TestPoint

THE CHALLENGE

A medical equipment company needed to create an automated test system for testing ultrasound probes. They had a team who was very familiar with the probes themselves but less familiar with how to properly test them. They were working on a monolithic application that would take a month for the FDA to verify each time they added a new probe. They worked on the project for nearly 3 years without success and brought on Testeract in to help move the project to completion. The project was a high mix, low volume application where they wanted to test multple probes with the same test bench. Becasue they had no standard, they had been attempting to use code from other parts of the organizations but with minimal success.

THE SOLUTION

Testeract provided a modular framework, Test-Point, to help standardize the way they created and organized their automated test system. Testeract broke down their various processes and created TALs (Test Abstraction Layers) and TMLs (Test Module Libraries) within TestStand. Modularizing gave the company the ability to easily reuse existing code. Modularizing also helped them reduce the time needed for testing the software per FDA requirements from one month to just 2 days because they only needed to test the parts that changed. In the end, Testeract was able to finish the project in 2 months with just 2 full time engineers and one part-time engineer. Based on this success, the company then used TestPoint for several other successful projects.

Modular Organization of TestStand Files Based on TestPoint

Client File — = Reusable code

TALs — Probe 1, Probe 2, Probe 2, Probe 2

TMLs — Set Current, Voltage, Frequecy, Reflectance

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