

CASE STUDY



DESIGN RISK MITIGATION HELPS POOL CLEANING PRODUCT DESIGNERS DIVE IN AND SCRUB OUT FAILURE MODES

Shainin's client wanted to be sure that the next launch of their unique autonomous pool cleaning product would be flawless. Shainin consultants used Design Risk Mitigation methodology to successfully expose hidden failure modes in tests of the first prototypes. Design changes could now be made to avoid those risks before production tooling was made.

BACKSTORY

In the previous product launch, an undetected failure mode caused critical functional failures and client company had to take its model off the market completely at a significant loss. The product line had functionality that was unique to the market and they wanted to put something back on the shelves successfully to fill the void but they also wanted to be very confident that there were no lurking failure modes that could result in a repeat of the last episode.

THE PROBLEM

With the many possible system failures to be worried about, test plans could be conceived and run forever. The client management needed to conserve time but still sure to avoid a recall event. The team needed a way to focus the discussion, converge on a much smaller list of risks and also create meaningful test plans to cover the range of end customer inputs that were expected.

THE SOLUTION

Shainin consultants led the design team through a methodical process, first listing all the main functions of the end product, then creating a risk prioritization score, creating a focused list of the highest risk functions to focus on, creating function models for each high risk function, linkage matrix's, and realistic test plans quickly.

THE ACHIEVEMENT

Significant design changes were made to specific component features to address the design weaknesses that were exposed. The client was happy to have found the problems at the earliest possible time when physical parts were available for test. They now have time to work on reliability testing of the improved design with Shainin.

