"Help, What's Happening to My Yield?"

Medical Device Production Improvement

A major supplier of implanted medical sensing devices wanted to improve its deteriorating productivity with a renewed high quality yield. Egret Technologies provided engineering and test solutions to deliver a >30% improvement within two months.

Situation: Medical device applications demand exacting standards of reliability. When a component is to be embedded in a patient, there is no room for error. A leader in FDA-approved medical sensing devices experienced a production yield drop over a period of time. This came to a crisis when the company realized that the yield for the device had slipped from nearly 100% down to just 70%. The company suspected the issue was due to failures with a critical component in their product that had been sourced from an outside supplier. Because of the history of the component, the original design and test information had become difficult to obtain and analyze. At a value of almost $40 per unit, scrap costs were quickly becoming unacceptable.

Solution: Egret Technologies was retained for its proven expertise in Application Specific Integrated Circuit (ASIC) failure analysis and its ability to develop innovative rigorous test procedures acceptable to the FDA. Using "reverse-engineering" techniques, Egret Technologies began to investigate, test and document underlying causes for the component failure. In just eight weeks important patterns and solutions began to emerge.

- The medical device was designed to transmit a wireless signal every 5 minutes, but the key component was often failing to generate the transmit signal at all.
- Duplicating the problem led to identification of the precise conditions and specific frequencies where the component failed to function.
- Additional testing showed that it would be

possible to adjust the component settings to prevent the "failure to transmit" condition.

- Yield analysis further confirmed that this adjustment to component settings could eliminate nearly all the failures, thereby recovering the high yield numbers.
- Longer term, a new Egret Technologies'-defined test procedure would enable the component supplier to screen for defective components before shipping to the medical devices company.

The client immediately asked Egret Technologies to help implement these changes and to work with their contract manufacturer to upgrade their testing process.

The VP of Operations said, "You've given us an excellent technical solution to improve our manufacturing yields, and a way to obtain higher performance and quality from our suppliers. Egret Technologies has helped us meet our bottom-line objectives."

"Turning Innovation into Profit" Results:
Scrap went from 30% to almost zero when Egret Technologies' proposed frequency adjustments were released into the product line which saved the client more than $500,000 dollars annually.

Egret Technologies is a superior electronic design partner to global vendors of technology products. We are an innovative, solution-driven, US-based engineering design firm specializing in optical, electronic, and mechanical hardware, as well as embedded software systems. We provide concept development, product design and project engineering. Contact Egret Technologies at (866) 96-EGRET or Innovate@EgretTechnologies.com