

ACCELERATING SUCCESS THROUGH STRATEGIC INNOVATION

Performance Genesis: Lifecycle Cost Management – Large Media Imaging Systems

Client: A leading manufacturer of high accuracy, large media imaging systems with a mature line of products.

Challenge: The client had an established line of large media imaging systems that were performing well in the marketplace. Competition was creating price pressure in the market, and customers were demanding performance enhancements be made to the products. The client had a strategy for implementing new technology and the related performance advancements. However, the client recognized that the core system cost must decrease to remain competitive in the market.

Product Genesis was brought on to evaluate and plan the cost reduction for the client’s most successful product, and develop a roadmap for translating the cost reductions across the entire product line.

Diagnosis: The client had designed their product line using a variety of approaches. In many cases, lower cost solutions had been non-uniformly implemented throughout the line. In some cases, time-to-market pressure drove the implementation of lower risk/higher cost partial solutions.

Additionally, system architectures were not well integrated, resulting in costly implementations of interfaces and functionality between subsystems.

Finally, a careful cost-benefit analysis of recently available materials and advanced processes had not been conducted. Substitution of alternative materials and fabrication processes appeared to offer potential benefits.

Methodology: The Performance Genesis framework is a modular set of tools that can be implemented based upon client needs. In this case, the client required a system level, cost vs. performance review of key subassemblies, components, and interfaces, followed by a prioritized list of potential changes, a plan for implementation in the first product and a roadmap for implementation across the product line.

Working from a tight set of performance requirements provided by the client, Critical Requirements Parameters

were identified. These were then translated into Critical Technical Parameters at the system and subsystem level. Using Design for Six Sigma (DFSS) methods, a systems level approach was taken to identify areas where the Critical Technical Parameters were being exceeded and could be satisfied with lower cost solutions. The functional interfaces between the subassemblies were identified and opportunities for simplification and consolidation were proposed. As this activity was conducted, opportunities for change across the product platform were identified.

Armed with the results of the Critical Parameter and system architecture reviews, cost savings options were identified. The client’s internal knowledge base of existing low-cost solutions, as well as suppliers, industry experts, and past experience were tapped in this effort.

The matrix of potential cost savings was weighted by magnitude of savings, time and cost to implement, and risk. Detailed review and analysis resulted in two phases of changes. The first phase of changes were planned for implementation in the next evolution of the product. This list consisted of quickly implemented modifications, along with a few high-return changes with longer implementation times. The second phase of changes consisted of those with longer lead-times,

which would be implemented with other cost reductions according to the product family roadmap.

Results: The recommended first phase of changes resulted in a 30% reduction in the cost of the specific system involved.

As a result of the systems level approach, the client was provided with a roadmap for cost reduction on the other systems within the product family, resulting in across the

board cost savings.

Performance Genesis took an already successful product line, without a complete lifecycle plan, analyzed the product architecture and design with an eye on cost reduction, and developed a set of changes to be integrated over the life of the product line. The result was a reenergized, increasingly profitable product line with a strategy to remain competitive over its lifecycle.

