A Journey from Quality Control to Quality Assurance

A high-tech manufacturer facing a quality crisis needed a transformational effort to evolve its production processes.

Client’s challenge

A high-volume, high-tech industrial design and manufacturing organization announced the next version of its flagship product to the global consumer base. Just before the anticipated product release, the announcement had to be rescinded and production stopped because of production quality problems.

The organization had historically made incremental improvements to its products, but this iteration represented a marked advancement in complexity. It needed a cultural transformation to evolve its quality assurance system, supply chain, and production processes. The goal: to create a quality assurance environment that would be proactive and not reactive when production challenges happened.

PwC’s solution

The company chose PwC to help address its quality challenges because of our deep manufacturing operations and quality systems experience in multiple high-tech consumer products industries, including pharmaceutical, medical device, automotive, electronics, and automotive. With experience in each of these industries, our diverse team was able to derive relevant practices for the company’s desired quality system.

Working collaboratively with the company’s leadership, we identified three critical goals:

- Improving product quality
- Lowering the overall production and operations costs
- Increasing the speed to bring new products to market

We performed a rapid and broad assessment of the current operations compared to what a similarly situated leading manufacturing company would employ. Industry benchmarks
were not sufficient to guide the company, so the team explained lessons learned from other industries’ similar operational transformations to create a customized target.

Among the many systems we helped the client set up were:

- A robust product development process along with recommendations for product strategy and technology management, including a ten-year roadmap and product release recommendations.
- A standard set of design controls for future product releases that have formal checkpoints along the way. We helped the client develop them by assessing current processes against leading practices, drawing heavily from product development leading practices in the medical devices and high-tech verticals, where precision quality control is a must.
- Project and portfolio management that helps the organization prioritize their projects, align resources, and get things done on time.
- Process change assessments that looks both upstream and downstream for impacts across production.
- Management review guidelines for making smart, proactive decisions based on trends and analysis.
- Material controls that focus on increased integration of the supply chain plus a supplier scorecard to improve how often and how well the company provides feedback to its suppliers.
- Corrective and preventive action capability to apply a rigorous, cross-functional approach to determining root causes of problems or potential problems to detect and correct them as upstream as possible. A production validation program to design detailed experiments on any proposed change to the product or manufacturing processes before implementing that change in a live production environment.

**Impact on client’s business**
PwC advised that it would take a sustained and persistent effort to realize this transformational change, but the initial results are significant.

- The company has reduced production spoilage on its highest cost product by 35 percent, yielding an annual savings of $35 million. We estimate an additional 20 percent annual reduction in spoilage once the quality system is mature.
- The supply chain is improved as well. We were able to repair a contentious relationship with the key raw materials supplier in order to smooth out the supply process.
- The new integrated product design strategy is a success as well, with the client estimating that its next product should come out in a third less time than the previous one.
By improving quality, cutting costs, and speeding up time to market, the client is and moving towards a stable and scalable operation and can retain its place as the global industry leader.

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