

Outsourcing Quality Management: Bridging the Divide

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As product innovation demands and tighter margins buckle down on the electronics manufacturing industry, changing how products are brought to market, original equipment manufacturers (OEM) and electronic manufacturing services (EMS) providers are becoming ever more critical to each other's successes.

But now, both are at a breaking point — facing even more stringent time-to-market, cost and quality product demands. Any delay, or breach in quality, can turn even the most innovative, sure-bet concept into a market bust, with millions of dollars lost. The growing need for a "perfect" product launch changes the business models between OEMs and EMS providers — with collaboration and new operational strategies now required all throughout the product lifecycle, to hit the mark on profitability and leap ahead of the competition.

A Growing Divide

Despite the increased need for collaboration, OEMs and EMS providers are considered oceans apart in many ways.

OEMs are traditionally focused on pushing manufacturing costs downstream, out of their financials, from the design process through product manufacturing and delivery. Although this is a sensible strategy at a high level, it has resulted in fierce competition and razor-thin margins among the EMS industry.

Pricing pressures, and shrinking resources headcount and budgets, results in EMS providers sandwiched, especially when it comes to quality. OEMs expect continual high-quality manufacturing — yet low margins and limited resources leave EMS providers without adequate test and quality processes critical for NPI success, with the expectation that they will deliver outstanding quality with little or no incremental payment.

This situation has caused at least one EMS executive to quip: "It's not really practical to expect us to do everything the exact same way they've been doing it for years — yet get a totally different cost structure and a dramatically better result."

Quality Management

Creating unison starts with adding visibility to product quality management processes. This means both parties collaborate to share, analyze and make decisions based on product, test and manufacturing data from across the product lifecycle.

But this is a lot easier said than done. OEMs are reluctant to divulge detailed product plans, in fear of intellectual property or competitive advantages being leaked into the wrong hands. And EMS providers usually hold close production test and process data, worrying it may expose inefficiencies and improper production methods.

Partnering with a third-party product quality management company eases this divide, with a safe, effective environment where data can drive the most intelligent decisions,

increase product

responsiveness and improve overall supply chain processes. These experts house a deep combination of hardware systems, software and outsourced services — three layers that can get OEMs and EMS providers under one roof, addressing even the most dynamic product challenges.

With quality management software, OEMs and EMS shops can gather real-time component quality, process, product test and post-manufacturing repair data from various incoming sources. This instant insight into product performance can significantly reduce the time a product takes from introduction to manufacturing to volume shipments, and minimize material scrap and labor hours. Functional test systems validate the product's operational performance and identify defective units. The task of developing these systems can be outsourced to system integrators for anything from test strategy to test specification generation to design-to-a-build to print system integration function. This enables the OEM to have an added focus on core business competencies, such as new product generation for an OEM and more efficient assembly techniques for the EMS provider.

Professional services that offer product quality management play even more of a key role, as both OEM and EMS resources are trimmed back. This provides fast problem resolutions, and predictive analytics, to root out potential product failures, well before they take shape.

Enlisting the help of a proven quality management professional provides the common, shared benefits of improved operational processes. Furthermore, OEMs achieve faster product launch cycles, improved supply chain predictability and higher overall product quality. EMS providers gain reduced scrap and waste, faster line changeover and better automation capabilities.

Quality Management in Action

Cimtek is an example of a quality management provider, working daily with dozens of OEM and EMS companies, fostering collaboration and providing the expertise and analytical data for both parties to drive profitable product launches.

How this works: A large multi-national EMS provider is primarily focused on building and shipping high-reliability, durable electronics devices — where product failures are not an option. In this case, the EMS company was striving to diversify its functional test and product quality management services for a particular product launch — an area that fell beyond the company's core competencies.

In an attempt to close this skill gap, the EMS provider developed internal product testing capabilities. But the lack of quality management expertise resulted in a pattern of significant launch delays, cost overruns and poor customer satisfaction levels. After multiple unsuccessful attempts, the EMS provider decided that it would be best to partner with an established third-party quality management provider.

Cimtek answered the call, working closely with the EMS provider's OEM customer on the front end of the product realization cycle — engaging early in the design cycle and planning test solutions which met not just the upcoming product launch, but also the majority of needs for all future revisions and updates.

The implementation of **Cimtek's** product quality management software, Magellon, provided real-time, analysis into product performance, shortened production startup

cycles and enabled reduced reaction times, as well as optimization and efficiency during product maturity and sustaining cycles.

This long-term focus on testing strategy planning, outsourced expertise and enabled real-time visibility resulted in:

- A 45 percent increase in on-time test system delivery, further reducing time-to-revenue for the EMS partner, and time-to-market for the OEM customers.
- A 40 percent reduction in overall test system costs, directly benefiting the OEM customers and increasing customer satisfaction levels for the EMS provider.
- A 75 percent reduction in product launch times.
- A 13 percent increase in yields — extended, resulting in the avoidance of purchasing additional capital equipment.

As more OEMs and EMS providers partner on product launches, the relationship is subject to higher risk. One product launch gone bad carries a domino effect — with angry customers, bankrupt budgets and late deliverables.

To minimize the risk factors, both OEMs and EMS providers need to think smarter — implementing product quality management processes and tools to create a true collaborative environment, where both parties work together to deliver products faster, contain costs and hit the bullseye within today's shortening profit-making windows.

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