Top Challenges In Electronics Manufacturing

Mike Roberts

The rate of change and advancement in the electronics industry can be startling, especially over the past few decades. The names at the top of the industry today were brand new companies just ten years ago. To survive, an electronics company needs to be as flexible as it is quick. And to excel, that company must be able to overcome both existing and emerging challenges in the market.

Below, we'll look into the top 6 Manufacturing Operations Management [1] (MOM) challenges faced by companies in the electronics industry.

Challenges in Electronics Manufacturing

The electronics industry can be broken down into three main categories: semiconductors, Electronics Manufacturing Services (EMS), and Original Equipment Manufacturers (OEM). To simplify things, out of these industry subverticals, we'll focus on the challenges faced by EMS and small to mid-sized contract manufacturers:

1. Shrinking Operating Margins: Global competition and new innovations are driving prices down. Companies must continually become more cost-efficient to remain profitable.
2. Complex Global Supply-Chain: More and more, companies have to juggle internal and external resources while staying within international standards. Issues such as traceability and compliance are increasing operational burdens. It is not unusual for components and sub-components to embark on a journey that touches three or more continents before reaching the end-consumer.
3. Service and Warranty Management: Leveraging the global supply-chain is putting more focus on supplier quality management. Having a strong quality and traceability system directly affects warranty reserve and post-production service hours.
4. Short Product Lifecycles: With quickly changing consumer tastes and preferences, EMS companies and contract manufacturers need to have effective New Product Introduction (NPI) processes in place. Closed-loop communication between sales, manufacturing, and engineering is vital to ensure product launches hit time, volume, and quality targets.
5. Uncertain Demand: Aggregately, economic volatility and cyclical demand cause fluctuations in production. On a more granular level, consumer preference can cause spikes in demand for an individual product or company. Efficient lean capabilities must be in place to keep inventory aligned with demand.
6. Sustainability: Emerging regulations and standards are forcing companies to account more and more for Corporate Social Responsibility (CSR) in

decisions. E-Waste, a popular topic today, is driving conversations about the disposal of products and their impact on the environment. Companies must now consider of the complete product lifecycle in decisions.

Manufacturing Shop Floor Drivers

Although these challenges may seem intimidating, companies have been dealing with them at some level for a very long time. We believe that integrating aspects of the value chain with technology can help to battle these challenges, and catalyze shop floor drivers to move companies closer to a model of operational excellence.

In our most recent Research Spotlight, Achieving Operational Excellence in Electronics Manufacturing [2], we cover each of these topics more in-depth, and provide our thoughts on how companies can leverage MOM capabilities to increase business performance. Additionally, our President and Principal Analyst, Matthew Littlefield, recently gave a webcast on the topic, which can be found here [3].

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