

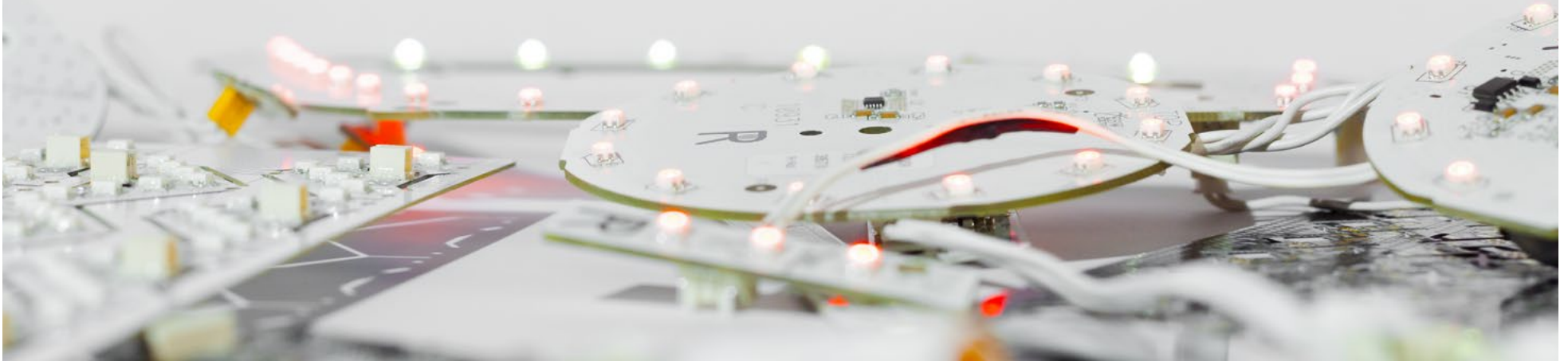


The Basic

# 10 'Must Haves' in Selecting Your EMS

**According to the IPC Association Connecting Electronics Industries, the demand for printed circuit boards (PCBs), electronic manufacturing services (EMS) and LED assemblies suggest stronger growth in the coming years.**

A plethora of suppliers domestically and overseas that compete on cost and technology in a highly changing environment make it difficult for buyers of such technology to find the right partner. However, there are several important characteristics that set some suppliers above the rest.





# 1 THE CERTIFICATION TRIFECTA

*Even if certification is not required in your industry, it indicates the EMS commitment to quality.*

IPC-A-610 Acceptability of Electronics Assemblies Training and Certification Program is designed and developed for the industry to provide staff with the most comprehensive technical knowledge required for their jobs. Quality supervisors as well as engineering and manufacturing supervisors should be certified. TS16949 certification, while specific to the automotive industry and the automotive supply chain, goes a step further toward defect prevention and waste reduction for lower cost and decreased risk. ISO 9001 certification achievement showcases the highest quality and commitment standards.





# INTEGRATED ELECTROSTATIC DISCHARGED MEASURES

*ESD is not something  
you 'paint on', but  
rather a prevention  
addressed in  
facility construction.*

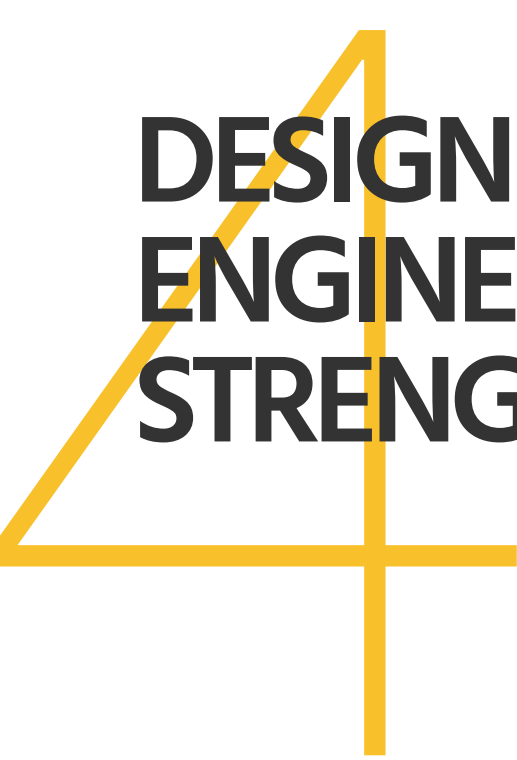
Static discharge can permanently damage electronics during the manufacturing process, causing latent failure in the field despite passing a final quality inspection. Integrated electrostatic discharge (**ESD**) avoidance measures should be implemented throughout the plant facility, particularly in surface mount technologies (**SMT**). Employees of the facility should be properly trained to ensure no product is damaged. Electrostatic discharge can occur during PCB loading, component handling, soldering and other operator intervention; therefore it is essential that a multi-faceted, comprehensive approach be implemented.



# STRICT ENVIRONMENTAL CONTROLS

*Temperature, humidity  
and air pressure/  
filtration controls  
should be required.*

The components used in electronics are sensitive to moisture and temperature, which can decrease their shelf life and contribute to poor soldering results. Because of this, temperature, humidity and air pressure/filtration need to be strictly controlled. The viscosity of pastes and coatings, for example, can be negatively affected by significant fluctuations in temperature and humidity, setting the stage for latent product failures or premature degradation. Sealed environmental controls are built into the operations in order to achieve this quality.



# DESIGN AND ENGINEERING STRENGTHS

A strong LED product manufacturer will have capability in design and engineering of LED products and electronic assemblies. It will practice “binning,” or sorting of LEDs according to the lumens, color temperature and voltage outputs of LEDs that vary slightly due to the nature of the manufacturing process. Strong companies also have capabilities like a double-sided PCBA process, x-ray imaging, in-circuit functional testing, BGA placement, and through-hole and mixed technology manufacturing capability, to name a few.



# A QUICK AND FLEXIBLE RESPONSE TO SUPPLY OR DEMAND FLUCTUATIONS

Supply chain disruptions. Equipment failure. Demand spikes. The very nature of the industry involves constant change. SMT production, for example, should be validated on multiple lines to address the possibility of unexpected downtime, and be able to respond to changes in production volumes. This redundancy assures customers that their own production will not suffer because the electronics manufacturer could not keep pace, and product will not deviate.

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# YOUR PROJECT SHOULD BE MANAGED BY A MASTER SCHEDULER

A company that successfully manufactures PCBAs and other electronics is only as good as its supply chain. With a team of highly trained individuals working within the ERP system and with suppliers, a company can stay in tune with production both at their suppliers' facilities, and on their own production floor. By linking the two, this team becomes critical to the smooth supply of product to the customer. A Master Scheduling Model along with the ability to ramp up quickly across multiple production lines, means a company can operate as lean as possible by adhering to the voice of the customer.



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# WIDTH AND BREADTH OF KNOWLEDGE ABOUT THE ELECTRONICS SUPPLY CHAIN

Some end-users of PCBAs like to specify the supplier of certain components—a practice common in the automotive industry. It is very beneficial for the company doing the assembly of those components to have a strong knowledge and depth of experience working with a variety of suppliers in order to recognize the best outcomes for the customer, and provide valuable engineering and expertise at the component level for designs that originate with customers. They become an important resource to the customer.

# A ROBUST ERP SYSTEM TO ENSURE TRACEABILITY

*Your EMS needs real time data and control over its supply chain and in-house production processes as well.*

Consistently adhering to the **FIFO** method is incredibly important although product traceability can be difficult. A good ERP system tracks all shipments and prohibits newer stock from being shipped out ahead of older stock. Companies need to have real-time data and end-to-end control over their supply chain and in-house production processes as well. Companies that have such a system can more easily satisfy production part approval process (**PPAP**) requirements and improve operational performance because they are able to quickly respond and make decisions based on good data, ultimately reducing waste and improving customer satisfaction.



# IS YOUR EMS A “CAN-DO” PARTNER?

Based on a firm understanding of IPC standards, a company should be able to creatively solve problems by applying their engineering and design expertise. In other words, just because standards and certifications exist—and for good reason—a good company will not shy away from raising the bar on those standards by applying their expertise toward resolving a problem. Customers like to work with a company that has a “can-do” attitude. It becomes less about convenience and more about what the company will do to increase quality.

# 1 YOUR EMS MUST PROACTIVELY ADAPT TO THE FUTURE

In order to survive in this competitive environment, innovation must be part of the mindset at all levels of the organization. Along with the engineering knowledge and a willingness to work collaboratively with customers, companies that “grow with” their customers become superior partners. Without a mindset toward constant innovation, a company will not invest in technology, train employees or adapt to conditions in a way that makes sense for this fast-paced industry.

# WHERE GREAT PEOPLE MAKE GREAT PRODUCTS

EBWE is a world leader in LED circuit boards and LED applications, specializing in design and electronic manufacturing of printed circuit board assemblies. Originally a part of a larger company and now a widely respected expert in electronics design and manufacturing, EBW Electronics continues to evolve with the times while staying true to its family atmosphere.

Our team-oriented approach and desire for quality keep everyone working toward the same goal: making a quality product efficiently.







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