



White Paper

Selecting the Right EMS Partner

What OEMs Should Consider When Selecting an Electronics Manufacturing Partner

Dirk Kaussen | EMS Strategy Group | Rev.: 1.0 | 26 September 2026

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Introduction

Selecting the right EMS partner is one of the most consequential decisions an OEM makes in its electronics manufacturing. The right partner can support quality, delivery performance, and competitiveness over many years. A rushed or purely price-driven decision, on the other hand, can lead to rework, delivery delays, and a costly partner change later on.

This white paper is aimed particularly at hardware developers and OEMs (*Original Equipment Manufacturers*) who are new to, or have limited experience with, outsourcing electronics manufacturing to an EMS provider (*Electronics Manufacturing Services*). It provides a practical overview of the key criteria that should be considered when selecting a suitable manufacturing partner.

Unlike an ODM (*Original Design Manufacturer*), an EMS provider generally manufactures based on the product and manufacturing data provided by the OEM, while an ODM also provides development services and often takes responsibility for the product design.

STRATEGIC EMS SELECTION CRITERIA

Key Evaluation Pillars for Selecting an Electronics Manufacturing Partner



Source: Strategic Guide to Selecting an EMS Manufacturing Partner | EMS Strategy Group

Manufacturing Technology and Capacity

The first and most obvious point to assess is whether the potential partner actually has the required manufacturing capabilities. These may include SMT (*Surface Mount Technology*), through-hole technology (THT), mixed-technology assembly and, depending on the product, cable assembly, box build or system integration. The partner's ability to handle the required production volumes is equally important. A partner specialized in high-volume production may be unsuitable for a low-volume product, and vice versa.

Available capacity alone is not sufficient. What matters is whether the partner can manufacture the product economically at the required batch size and whether the necessary capacity and production priority can be maintained over the long term.

Quality Assurance and Certifications

Certifications such as ISO 9001 are widely used in electronics manufacturing and can provide an important basis for evaluating an EMS partner. For more demanding industries, additional certifications may be required, such as IATF 16949 for the automotive industry, ISO 13485 for medical devices, or AS9100 for aerospace. Depending on the product and customer requirements, industry-specific IPC standards and qualifications may also be relevant. Beyond the certificate itself, it is worth looking at the quality culture in practice – for example through a factory visit, by reviewing relevant quality performance data, or by speaking with existing reference customers.

- **Inspection and testing** – automated optical inspection (AOI), X-ray inspection, functional end-of-line testing
- **Traceability** – documentation of lot, component and manufacturing step according to the requirements of the product and customer
- **Complaint and non-conformance management** – clearly defined processes for deviations, corrective actions and rework

Beyond quality management, OEMs should also assess whether the EMS provider is able to take into account the regulatory requirements relevant to the specific product and intended market. For products intended for the European market, for example, requirements relating to product safety, electromagnetic compatibility, substance restrictions, documentation and conformity assessment may play an important role. The EMS provider does not necessarily have to be responsible for the product's overall legal compliance. However, it should be able to reliably implement the requirements relevant to its manufacturing and procurement processes and provide the necessary documentation and information.

Supply Chain and Procurement Capabilities

A capable EMS provider has established relationships with distributors and component manufacturers and can therefore procure components reliably, including during periods of market shortages. What matters is not purchasing volume alone, but also the quality of the procurement organization and the strength of its supplier network. It is also important to understand how the partner manages obsolescence, supply shortages and alternative components, and whether it proactively identifies supply chain risks rather than responding only once an acute delay has occurred.

An additional advantage can arise when the partner supports OEMs with dual-sourcing or alternative sourcing strategies and helps reduce component risks by using multiple suitable supply sources.

Geographic Location and Supply Chain Logistics

The choice of manufacturing location affects transportation times, cross-border logistics, potential customs requirements and the speed at which problems can be addressed. The manufacturing location does not necessarily have to be in the same region where the OEM is based. What may be more important is where the products will ultimately be sold.

If, for example, a product is primarily intended for sale in a distant market, manufacturing close to that market may make sense. Shorter transportation routes, reduced cross-border logistics and potential customs advantages can all play a role, as can proximity to customers and local distribution structures.

Conversely, manufacturing in another location may be more economical due to more favorable production conditions, even if this results in longer transportation routes. The actual economic impact should therefore be assessed as part of a **TCO analysis (Total Cost of Ownership)**. In addition to the manufacturing or unit price, this should take into account logistics, customs duties, inventory, transportation times and other location-dependent costs.

An EMS partner located close to the OEM can, on the other hand, offer advantages for day-to-day cooperation, such as shorter distances for technical discussions, easier factory visits and closer coordination during product launch. Depending on the project, both proximity to the OEM and proximity to the target market can therefore be relevant factors when selecting the manufacturing location.

Assessment

Geographic proximity alone should not be a decisive selection criterion. What matters is which location strategy best fits the product, target market and planned supply chain. A regional EMS partner can offer advantages particularly in terms of response times and close cooperation. If the main target market is located in another region, manufacturing close to that market may provide logistical and economic benefits. The decision should therefore not be based solely on unit price, but on a comprehensive **TCO analysis**.

Financial Stability

An EMS partner with strained liquidity represents a significant risk, even if its quality and technology are convincing. Before entering into a cooperation, OEMs should assess the financial stability of the partner, for example through commercial credit reports, available financial statements or discussions with existing customers. A financially stable mid-sized partner may be more suitable for a particular OEM project than a larger but financially distressed provider.

Technical Support and New Product Introduction (NPI)

A suitable EMS partner does not only support series production but can also provide support during the product introduction phase, known as New Product Introduction (NPI). This may include Design for Manufacturing (DFM) feedback, support during initial sampling and close coordination between the development and manufacturing teams. This early cooperation can reduce subsequent rework and accelerate the transition to series production.

Communication and Cultural Fit

In addition to hard criteria such as certification and capacity, the quality of the working relationship often plays an important role in the long-term success of the partnership. A partner that communicates openly about problems, provides clear points of contact and actively manages time-zone and language differences can make day-to-day cooperation significantly easier. An initial pilot project can often reveal more about the actual working relationship than a company presentation.

Industry Experience and References

Experience with comparable products and industries can shorten the learning curve and reduce the risk of unexpected process issues. Reference customers from the same or a similar industry can provide a realistic impression of how the partner performs under practical conditions, particularly when dealing with changing production volumes, special requirements or short-notice changes.

Conclusion

The selection of an EMS partner should never be based solely on unit price. Manufacturing technology, quality assurance, supply chain capabilities, location, financial stability, development support and the quality of the working relationship are all important criteria for a sustainable manufacturing partnership. OEMs that assess these criteria systematically and in the context of their own requirements create the basis for a partner that can not only manufacture the first production run reliably, but also grow with the product as volumes increase, requirements change or new challenges arise.

Those with limited experience in selecting an EMS partner should first define their own requirements clearly and then systematically compare several suitable providers. This makes it easier to determine which partner fits the product, planned production volumes and intended supply chain, rather than making the decision solely on the basis of a single quotation or the lowest price.

For OEMs and hardware developers who require support with this process, independent external specialists can provide valuable assistance. **EMS Strategy Group** is internationally focused on supporting OEMs with the structured selection and evaluation of EMS partners, as well as with questions relating to outsourcing and international electronics manufacturing.

About the Author

Dirk Kaussen is Founder and Managing Director of EMS Strategy Group. With around 40 years of experience in the electronics industry — including founding and managing his own electronics manufacturing company in Germany — he brings deep expertise in manufacturing processes, EMS partner selection, supply chain stability, relocation projects, and risk management. His approach combines practical solutions with a direct connection to industrial reality.

About the EMS Strategy Group

EMS Strategy Group supports industrial enterprises in the strategic and operational advancement of their electronics manufacturing. Our core expertise lies in the strategic relocation of manufacturing volumes, the selection of qualified EMS partners, the establishment of new production capacities, and the expansion of existing manufacturing structures.

Furthermore, we design resilient supply chain frameworks, conduct comprehensive risk assessments, and guide dual-sourcing strategies, with operational support through to a successful series production ramp-up.

www.emssg.com | [LinkedIn: Dirk Kaussen](#)

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