



SERVICE BRIEF

From Idea to Series Production

How EMS Strategy Group supports hardware start-ups in building a reliable series production setup

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A hardware idea can work technically and still fail when it comes to implementing series production.

The transition from prototype to series production brings new requirements: the right EMS partner needs to be identified, the product needs to be suitable for manufacturing, components need to be available, and the supply chain needs to remain reliable as volumes increase. At the same time, many start-ups do not yet have their own experience in electronics manufacturing, supplier qualification, or production ramp-up.

This is where **EMS Strategy Group** supports its clients.

We help hardware developers and start-ups turn a developed product into a **feasible, economically viable and scalable manufacturing solution** – from selecting suitable manufacturing partners through to series production ramp-up.

This is not about consulting that ends with a presentation. We bring our experience into the practical implementation and work directly at the interfaces between **OEM, engineering, EMS, supply chain and manufacturing**.

Where Hardware Start-ups Commonly Face Challenges

1. Finding the Right EMS Partner

The Problem

A start-up needs an EMS partner but initially has only limited production volumes.

Many larger EMS companies are geared towards higher volumes and established customer structures. Smaller manufacturers may offer greater flexibility but may not have the processes, capacities or capabilities required for a later production ramp-up.

For a start-up, the largest or lowest-cost EMS provider is therefore not automatically the right partner. What matters is whether the manufacturer **fits the product, the current volume and the company's planned development**.

Our Solution

EMS Strategy Group identifies and evaluates suitable EMS partners for the specific project.

Among other factors, we consider:

- current and expected production volumes
- product complexity
- technology and manufacturing requirements
- required testing and quality processes
- flexibility for small production runs
- capacity for future ramp-up
- location and target markets
- communication and decision-making structures

The result is not simply a supplier list, but a selection of manufacturing partners that **fit the start-up's actual requirements**.

2. The Product Has Been Developed – But Not Yet for Series Production

The Problem

A prototype can work technically without being optimized for cost-effective series production.

Components, PCB design, mechanical interfaces, assembly or testing concepts may work during the prototype stage but later create unnecessary costs, scrap or additional work in series production.

The later such issues are identified, the more difficult and costly changes can become.

Our Solution

We look at the product from the perspective of its future manufacturing process.

Together with the engineering team and EMS partner, we examine where improvements can be made before series production begins, for example in:

- component selection
- availability of critical components
- PCB design
- assembly suitability
- test concepts
- manufacturing processes
- possible alternative components
- future scalability

The objective is not to replace the engineering team, but to **connect engineering and manufacturing at an early stage**.

3. Components Are Available – Until Suddenly They Are Not

The Problem

Hardware start-ups understandably focus on developing their product. Long-term component availability often becomes a concern only when components have already been ordered or production is about to begin.

Individual critical components for which no suitable alternative exists can become particularly problematic.

Our Solution

We support the assessment of supply risks before series production begins.

This does not mean duplicating the sourcing strategy for every component. The key is to **identify critical dependencies and establish appropriate measures where they are actually needed**.

Depending on the situation, this can include alternative components, second sources or an adapted sourcing strategy.

The EMS partner is not considered in isolation. The interface between **OEM, EMS and the component supply chain** is an essential part of the assessment.

4. The First Production Run Works – But the Ramp-up Becomes a Problem

The Problem

The first production order does not automatically mean that a stable series production process has been established.

During ramp-up, new challenges can arise: production processes may need to be adjusted, failure modes may appear for the first time at higher volumes, test processes need to prove themselves, and communication between the start-up and the EMS partner needs to work effectively.

For a small engineering team, managing these issues alongside a market launch can be difficult.

Our Solution

We support the transition from the completed development stage into practical series production.

We assist with coordination with the EMS partner and help structure and resolve open issues between engineering, purchasing, quality and manufacturing.

The focus is on a **controlled transition into series production**, rather than simply placing a manufacturing order.

5. The EMS Partner Is Located in Another Country

The Problem

International manufacturing creates additional opportunities but also additional interfaces.

Different communication cultures, distances, decision-making structures and expectations can make cooperation more complex. For a start-up without international manufacturing experience, even evaluating potential partners can be challenging.

Our Solution

EMS Strategy Group works internationally and has practical experience at the interface between European companies and international manufacturing locations.

We help evaluate manufacturing options not only on the basis of unit prices, but also with regard to:

- communication
- quality requirements
- logistics
- supply chain
- scalability
- responsiveness
- geographic proximity to the target market
- total cost

This provides a broader basis for decisions regarding manufacturing locations and EMS partners.

6. The Start-up Grows – and the Original Manufacturing Setup No Longer Fits

The Problem

A manufacturing partner that is suitable for the first 1,000 units is not automatically suitable for 50,000 or 100,000 units.

As volumes increase, requirements for capacity, purchasing, quality, logistics and production organization also change.

Our Solution

We do not look at manufacturing only in terms of current requirements. We also consider the planned development of the product.

When selecting an EMS partner, it can already be taken into account **what manufacturing structure will be required later and whether the selected partner can support that development.**

As requirements change, additional manufacturing options, production locations or a different manufacturing structure can also be evaluated.

What EMS Strategy Group Can Provide

Depending on the project, our support can cover individual services or the complete path to series production:

EMS Partner Selection

Identification, pre-selection and evaluation of suitable manufacturing partners.

Manufacturing and Location Assessment

Comparison of potential production locations and manufacturing structures.

TCO Assessment

Evaluation of actual total costs rather than relying solely on unit-price comparisons.

Manufacturing-Oriented Product Review

Identification of aspects that may influence the future series production process.

Supply Chain and Sourcing Strategy

Assessment of critical components and potential sourcing risks.

RFQ and Quotation Support

Structuring and support of RFQs to suitable EMS partners.

EMS Audit and Qualification

Support in evaluating manufacturers before establishing a long-term cooperation.

Production Launch and Ramp-up

Support at the interface between OEM, engineering, EMS and manufacturing.

International Manufacturing Strategies

Evaluation of manufacturing options in Europe, Asia and LATAM.

Why EMS Strategy Group

Around 40 Years of Practical Experience in Electronics Manufacturing

EMS Strategy Group combines strategic thinking with practical experience in electronics manufacturing.

Dirk Kaussen has been active in **electronics manufacturing since 1986** and was, among other activities, the founder and managing director of his own electronics manufacturing company in Germany. His experience covers the development and setup of production lines, quality processes and operational manufacturing management, as well as international cooperation with manufacturing partners.

In addition, EMS Strategy Group works with an international network of **business partners who have also spent decades in management and have built, managed and supported international manufacturing operations.**

This brings together different perspectives:

OEM Requirements

Understanding what a hardware company actually needs.

EMS Perspective

Understanding how manufacturing companies operate and what they require from their customers.

Operational Manufacturing

Understanding what actually works in production – and what may look reasonable on paper but create problems in practice.

International Cooperation

Understanding how manufacturing projects can be implemented across countries and company boundaries.

We do not operate our own EMS manufacturing facilities and do not sell manufacturing services.

This allows us to take an independent view when selecting and evaluating potential manufacturing partners.

Our objective is not to place a start-up with a particular manufacturer.

Our objective is to **build the manufacturing structure that fits the specific product and its planned development and to support its implementation.**

From Idea to Series Production

The development of a hardware product does not end with a functioning prototype.

Between a prototype and stable series production, there are decisions that can have a significant impact on cost, quality, supply reliability and scalability.

EMS Strategy Group supports hardware start-ups in making these decisions **early, practically and with the future manufacturing process in mind.**

From selecting the first EMS partner to production ramp-up.

From Europe to Asia and LATAM.

From the first manufacturing inquiry to a reliable series production setup.

Talk to Us About Your Project

Are you developing a hardware product and facing the challenge of turning it into a functioning series production setup?

We can discuss **where your project currently stands, which manufacturing questions have already been addressed and where additional support may be useful.**

Contact

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Strategic EMS Partner Selection, Supply Chain Strategies and International Manufacturing Relocation – Europe, Asia and Beyond.

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.

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