



STRATEGIC BRIEF

Cultural distance and knowledge transfer

Why EMS relocations fail despite favorable costs and technology

Dirk Kaussen | EMS Strategy Group | Rev.: 1.0 | September 2, 2026

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Introduction

Companies relocating electronics manufacturing to a new EMS partner typically calculate hourly rates, material prices, and logistics costs down to the last detail. However, what is often only superficially considered in many projects is whether both sides understand the same terms in the same way. This is precisely where the problems arise that ultimately prove costly – not at the negotiating table, but in the daily collaboration between engineering teams, during the complaint process, or when transferring manufacturing know-how.

This Strategic Brief summarizes the available reliable research on this topic. Research on production relocation is an established field that Fraunhofer Institutes and universities have been continuously monitoring for decades. A separate, annually updated statistical survey specifically on “EMS relocation and cultural misunderstanding” does not exist in a publicly accessible form. However, what is well documented are the symptoms by which failed or crisis-ridden relocations become recognizable – and these symptoms point strikingly often to communication and knowledge transfer problems, even if companies usually categorize them in surveys under other terms such as quality problems or coordination effort.

1. What research tells us about failed relocations

The survey “Modernization of Production” has been conducted by the Fraunhofer Institute for Systems and Innovation Research ISI since 1993, regularly polling companies in the German manufacturing sector. It thus provides a long-term database on production relocations and reshoring. The 2015 survey, analyzed in cooperation with Karlsruhe University of Applied Sciences, reveals a remarkably stable pattern.

- More than half of the companies that are bringing production back to Germany cite losses in flexibility and delivery capacity as the reason.
- A similarly large proportion cite quality problems at the foreign location.
- Roughly a quarter of the companies report having significantly underestimated the effort required for coordinating and supporting their foreign partner.
- The availability of qualified specialists at the destination location was also identified as a factor influencing relocation decisions.

What is striking about these points is what they have in common. Flexibility and delivery problems rarely arise because a machine is missing, but rather because changes, deviations, or new requirements don't reach the various locations in a timely or complete manner. In electronics manufacturing, quality problems are disproportionately often attributable to differing interpretations of what constitutes “acceptable,” for example, regarding limit samples, solder joints, or the level of documentation required. Underestimating coordination efforts is essentially an admission that communication between teams requires more time and repetition than anticipated. The underlying issue in all three cases is that knowledge and experience are not always transferred and embedded as effectively as planned.

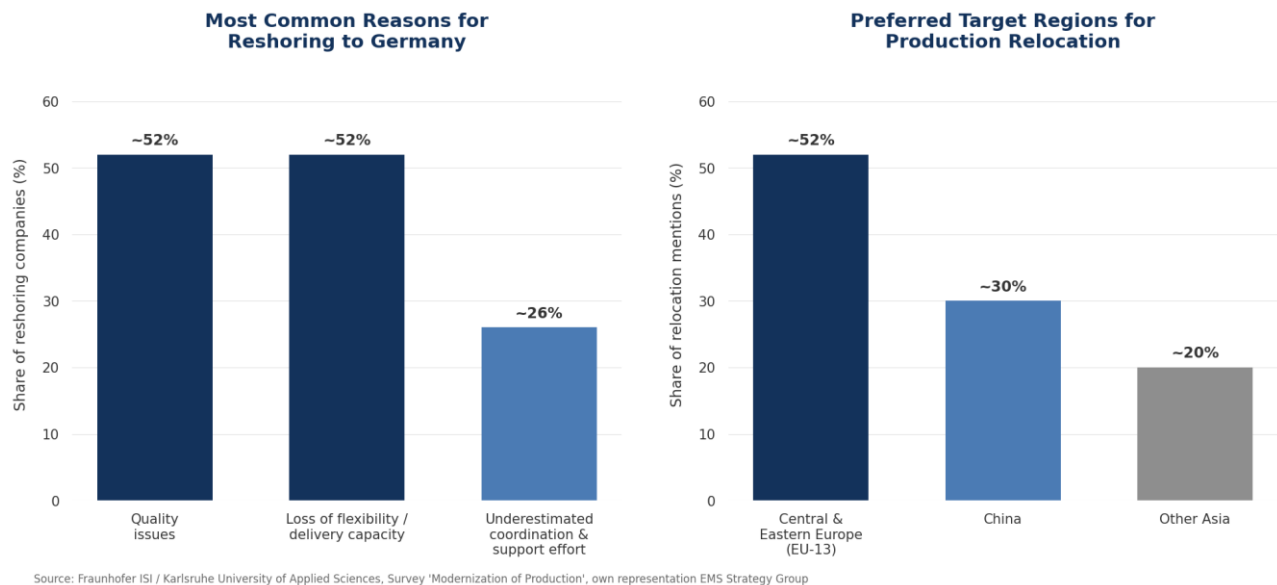


Figure 1 – Most frequently cited reasons for reshoring and preferred target regions for German production relocations, based on the Fraunhofer ISI survey “Modernization of Production”

Assessment

The statistics do not list "cultural misunderstandings" as a separate category because the company surveys do not specifically address this issue. However, anyone who examines the stated reasons for reshoring in terms of their origins regularly arrives at precisely this point. The problem usually only becomes apparent when it is already costing money.

2. The underestimated factor – expectations, language, and tacit knowledge

That communication problems and differing expectations burden international projects is nothing new. Classical offshoring research from the 2000s already demonstrated that difficulties in relocating complex, non-standardized activities can arise, among other things, from communication problems between locations, exacerbated by differing values and a lack of mutual oversight. In such situations, misunderstandings are often only recognized with a delay because employees at the new location ask questions less frequently than the commissioning company expects.

In electronics manufacturing, a second effect comes into play, which is referred to in knowledge management research as tacit knowledge. A large part of what makes a well-established production line efficient is not documented in any specifications. These are the small adjustments to soldering profiles, the awareness of incipient material deviations, and the sequence in which an experienced worker searches for defects. This knowledge can only be transferred through direct exchange, repeated collaboration, and open communication. If the relationship with the new manufacturing partner is purely contractual and conducted remotely, precisely this transfer fails to occur, regardless of how good the formal specifications are.

This allows us to formulate the findings from Chapter 1 more precisely. Relocations rarely fail due to purely technical manufacturing issues. They fail because the transfer of knowledge and expectations between two organizations with different languages, hierarchical cultures, and approaches to mistakes was not actively managed.

3. Three regions, three different points of friction

The following examples do not describe an evaluation of entire countries or cultures, but rather typical points of friction that recur in specialist literature and in everyday relocation practice. They are intended to show that “cultural distance” can have a different form in each target region and must therefore be addressed differently.

China

Chinese manufacturing partners are rightly considered technically capable and fast. A recurring point of friction can lie in the handling of deviations and feedback. In a more hierarchical communication culture, where maintaining face can be important, problems may be addressed more cautiously with the client. Combined with differing expectations regarding commitment and communication, this can lead to OEMs recognizing deviations later than anticipated.

India

India's electronics manufacturing sector is growing rapidly and is being expanded by the government with substantial support programs. Germany's foreign trade agency, GTAI, explicitly emphasizes the importance of personal relationships and trust for companies establishing a supplier network there. Close supply chain management and continuous engagement are therefore important elements of this approach. Where European OEMs primarily define cooperation through contracts and key performance indicators, a lack of personal interaction can therefore lead to friction. Especially in long-term manufacturing relationships, direct contact between those responsible remains an essential component of the collaboration.

Central and Eastern Europe

The EU-13 countries have been one of the most important destination regions for German production relocations for years. In the Fraunhofer ISI analysis of 2015, they were even the preferred destination region, accounting for more than half of the mentions, ahead of China and the rest of Asia.

Unlike in China or India, the point of friction here often lies less in fundamental cultural differences. In many cases, geographical proximity, European integration, and shared industrial practices facilitate cooperation. Challenges can arise, rather, where experiential knowledge, responsibilities, or established working methods differ between locations.

assessment

Three regions, different points of friction, one common effect. In all three cases, cultural or organizational differences can hinder exchange between the locations.

4. The interface as a response

The obvious reaction of many OEMs to failed offshoring projects is to change manufacturing partners or bring production back in-house. Both are expensive and often don't solve the underlying problem, because the next offshoring project will encounter the same structural friction points, just with a new partner. A more effective approach is to treat the transfer of knowledge and expectations as a separate task from the outset, with a dedicated person or small team acting as a liaison between both sides, clarifying technical questions without delay,

and identifying culturally based communication gaps before they escalate into quality or delivery issues.

This very role of such an interface between OEM and EMS partner is the core of the EMS Strategy Group's work. It supports relocation projects not only up to the signing of the contract, but also operationally until a stable start of series production. This includes practical on-site support. A responsible person is available as a direct contact at or near the production site, addresses problems immediately, and ensures the necessary feedback between the EMS partner and the OEM.

The interface work begins even before the actual start of series production. Where it makes sense, key personnel from the EMS partner are temporarily integrated into the OEM's operations, or OEM employees are temporarily integrated into the EMS partner's operations. This direct exchange enables the transfer of practical manufacturing knowledge that cannot be fully captured in specifications and process documentation.

This also includes the joint definition of limit samples. If there are different views on what constitutes "GOOD" or "REJECT," these are clarified as early as possible directly on the production line and aligned using concrete samples. This creates a shared understanding of quality before conflicting assessments arise during the series production process.

Equally important is preparing the participating teams for collaboration. Development, quality, and manufacturing teams must not only know the technical requirements but also understand how the other side communicates, asks questions, and handles deviations. The goal is a way of working in which problems can be addressed early and solved together.

The EMS Strategy Group does not create an additional management layer, but rather a practical link between two organizations. It ensures that information, decisions, and experiential knowledge are not lost at the boundaries between OEM and EMS partner – especially during the critical phase between relocation, ramp-up, and stable series production.

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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