



WHITE PAPER

Obsolescence Management

The Most Overlooked Selection Criterion for EMS Partnerships

Why component discontinuations determine the success of your EMS partnership — and how to identify the right partner

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Summary

One of the most overlooked—yet strategically important—selection criteria for an EMS partner rarely appears as a structured evaluation criterion in RFQs: **Obsolescence Management**.

While certifications, manufacturing capabilities, production capacity, and pricing are standard elements of virtually every RFQ, structured component lifecycle management is often overlooked—even though it is one of the strongest indicators of an EMS provider's operational capability. This white paper explains why professional obsolescence management is strategically important for OEMs, which process characteristics distinguish a professional approach, how IEC 62402:2019 can serve as an assessment framework, and which questions should be included in an RFQ to evaluate an EMS partner effectively.

Choosing the right partner significantly reduces long-term risks and makes companies less vulnerable to disruptions in component availability.

Key Message of This White Paper

Component discontinuations are not exceptions—they are an inherent characteristic of modern electronics supply chains. An EMS partner that addresses obsolescence reactively rather than proactively represents a silent operational risk for every OEM. IEC 62402:2019 provides a clear, standardized framework for evaluating these processes. Explicitly inquiring about obsolescence management in the RFQ provides deeper insights into an EMS partner's operational performance than can be gained from proposal documents alone.

1. Obsolescence as a Structural Risk in Electronics Manufacturing

1.1 What Obsolescence Means — and Why It Is Inevitable

Component obsolescence is not an isolated issue. According to IEC 62402:2019, obsolescence is defined as the transition of a component from the state "available" to "no longer available from the original manufacturer according to specification." Over the lifetime of electronic products, this transition is virtually unavoidable. Electronic components—especially semiconductors, microprocessors, FPGAs, and MLCC capacitors—have typical product lifecycles of five to ten years, while the products in which they are installed often remain in use for considerably longer.

This gap between component lifecycle and product lifecycle forms the basis of most obsolescence problems. For companies in the industrial automation, medical technology, defense, and automotive sectors—with product lifecycles of 15 to 30 years—obsolescence management is therefore generally not an optional service, but an operational necessity.

Component discontinuations are not an exception, but a structural feature of modern electronics supply chains. Companies that only react once a component is discontinued are already too late—the consequences are production stoppages, emergency procurement costs, and regulatory risks.

1.2 Typical Effects of Unmanaged Obsolescence

The consequences of unmanaged component obsolescence can be significant. Production stoppages occur when critical components become unavailable at short notice. Emergency procurement on the spot market—often at several times the normal purchase price—erodes margins and increases the risk of sourcing counterfeit or substandard components. Redesign projects initiated without sufficient lead time consume valuable engineering resources and delay product deliveries. In regulated industries, component substitutions within already approved assemblies may also require re-certification or regulatory re-approval, depending on the applicable regulatory framework.

Most of these risks can be significantly reduced through professional obsolescence management—provided the EMS partner has established the necessary processes and responsibilities

2. Why Obsolescence Management Is Missing from the RFQ—and Why That Matters

2.1 The Blind Spot in the Standard Assessment Framework

EMS partner selection is typically based on a set of criteria that has been established in the industry over decades: ISO certifications, machinery and assembly capacities, quality metrics such as DPPM and first-pass yield, price quotes, capacity availability, and delivery times. While this framework isn't wrong, it is incomplete.

Obsolescence management does not appear as a structured assessment point in the majority of RFQs. As long as delivery times were short and components were widely available, obsolescence was a secondary problem. The supply chain crises of 2020 to 2022 fundamentally changed this picture: Electronic components could be unavailable for months. The ability of an EMS partner to anticipate and manage such situations systematically has become a key indicator of operational capability.

Those who do not include obsolescence management in their RFQ risk leaving the answer to one of the most important supply chain questions to chance.

2.2 The Exception Proves the Rule: Regulated Industries

In industries such as aerospace, defense, and medical technology, obsolescence management has long been an explicit component of EMS partner qualification. Standards like AS9100 (aerospace) or FDA requirements contain direct guidelines for handling component obsolescence and lifecycle risks. In these sectors, it is standard practice to ask an EMS partner about their obsolescence processes and request corresponding documentation.

The same risk profile applies to industrial electronics, automotive suppliers, and other sectors with long product lifecycles—without any regulatory obligation to address it systematically. This gap is beginning to close as market expectations continue to rise—although it has not yet become standard practice across the industry.

3. What Constitutes Professional Obsolescence Management

3.1 Characteristics of a Professional Process

An EMS partner with professional obsolescence management processes is not defined by the mere absence of problems, but by the quality of its preventive structures. Well-established processes typically include five core elements.

First: systematic lifecycle monitoring. The EMS partner continuously monitors the lifecycle status of all components used in active projects through specialized databases and direct communication with component manufacturers.

Second: early customer notification. As soon as a component reaches the status Not Recommended for New Design (NRND) or End of Life (EOL), the EMS partner proactively informs the customer with sufficient lead time.

Third: structured response strategies. The partner develops clear solution options—Last Time Buy (LTB), qualified Form-Fit-Function (FFF) replacements, or product redesign—and provides a transparent assessment of the implications of each option.

Fourth: clearly defined responsibilities. Designated contacts and documented escalation procedures ensure that obsolescence issues are managed systematically rather than becoming lost in day-to-day operations.

Fifth: documented processes. All procedures are formally documented, traceable, and auditable.

3.2 Comparison of Obsolescence Management Approaches

The following table illustrates the different levels of capability found in obsolescence management—from purely reactive approaches to full compliance with IEC 62402:2019.

Maturity Level	Feature	Risk Profile for the OEM
Reactive	No defined processes; action only after supply issues occur	High risk – production stoppages and emergency sourcing likely
Basic	Occasional checks; no systematic lifecycle monitoring	Risk partially reduced; significant gaps remain
Structured	Defined responsibilities and lifecycle monitoring	Solid foundation; limited proactive capabilities
Professional	Proactive communication, escalation procedures, documented processes	Risks largely under control
Excellent (IEC 62402:2019)	Full compliance, regular audits, integrated reporting	Maximum supply security and planning reliability

Table 1: Capability model for obsolescence management in the EMS environment. Source: Author's own illustration.

An EMS partner with professional obsolescence management processes does not operate purely reactively. Such organizations typically have well-defined processes, clear responsibilities, systematic lifecycle monitoring, and proactive communication regarding component discontinuations and lifecycle risks.

4. IEC 62402:2019 as an Assessment Framework

4.1 What the Standard Defines

IEC 62402:2019 *Obsolescence Management* is the internationally recognized standard for establishing and operating a professional obsolescence management system. The second edition, published in 2019, replaced the original 2007 edition and significantly expanded its scope. The standard evolved from a guidance document into a requirements-based standard and now covers key areas including the establishment of an obsolescence management policy, organizational structures and responsibilities, the development of an Obsolescence Management Plan (OMP), strategies for minimizing obsolescence during product design, the selection and implementation of mitigation measures, as well as performance measurement and continuous improvement.

The standard is industry-independent and applies to any organization that depends on external suppliers for the delivery and long-term support of its products. It is widely recognized as a reference framework, particularly in the aerospace, defense, and industrial sectors.

4.2 Why IEC 62402:2019 Matters in EMS-RFQ

An EMS partner that aligns its processes with IEC 62402:2019—or has had them independently assessed against the standard—typically demonstrates several important characteristics. Obsolescence management is treated as a structured management discipline rather than an informal operational activity. Documented procedures are in place and can be verified. In addition, the organization is usually able to provide clear, evidence-based answers during qualification meetings or supplier audits.

For OEMs, IEC 62402:2019 provides a practical framework for comparing suppliers. Differences in the quality of obsolescence management processes become visible—as long as the right questions are asked. Without such a framework, supplier evaluations can quickly become subjective.

Evaluating an EMS partner against the principles of IEC 62402:2019 provides deeper insight into its operational capability than proposal documents or equipment lists alone

Anyone who evaluates an EMS provider based on IEC 62402:2019 gains deeper insights into its operational performance than through offer documents alone.

4.3 Certification versus Alignment

Not every EMS partner with a professional obsolescence management system is formally certified to IEC 62402:2019. For most applications, formal certification is not essential. What matters is whether the organization's processes meet the intent and requirements of the standard in practice. This can be assessed reliably during the RFQ process through targeted questions about process structures, supporting tools, and practical examples from previous projects.

5. Obsolescence Management in the RFQ: Asking the Right Questions

5.1 Why Targeted Questions Reveal More Than Certificates

Certificates confirm that a process was audited at a specific point in time. They say little about whether this process is actually followed in daily operations. Targeted questions in the RFQ – combined with the request for concrete evidence – are therefore often more informative than simply submitting a certificate.

Experience shows that the operational performance of an EMS partner is most clearly demonstrated when they can provide concrete case studies: How was an EOL notification handled in a past project? What lead time did the customer have? What solution was developed? Who was responsible internally?

5.2 Recommended RFQ Questions

The following questions can help OEMs assess the quality of an EMS partner's obsolescence management processes during RFQs and supplier qualification discussions.

Question for the EMS Partner	Expected Evidence
Do you have a documented obsolescence management process?	Process documentation, defined responsibilities, escalation procedures
How do you identify upcoming component discontinuations (PCN/EOL)?	Data sources, monitoring tools, review frequency
How are EOL notifications communicated to customers?	Communication process, lead times, escalation procedures
Which mitigation measures do you implement when obsolescence risks are identified?	Last Time Buy strategy, redesign process, alternative sourcing
Are your processes aligned with or certified to IEC 62402:2019?	Audit reports, certifications, internal standards
Can you provide practical examples from previous projects?	Documented case studies demonstrating successful obsolescence management

Table 2: Recommended RFQ questions for evaluating obsolescence management capabilities in EMS supplier selection. Source: Author's own illustration.

5.3 Warning Signs During Supplier Discussions

Strong answers are informative—but so are warning signs. If an EMS partner cannot identify a designated person responsible for obsolescence management, responds vaguely when asked about

previous cases, or states that component discontinuations are primarily identified through customers or by chance, this indicates a structural weakness that may later result in operational problems.

Professional EMS providers answer these questions clearly, systematically, and with supporting evidence.

Questions about certifications are standard in virtually every RFQ. Questions about obsolescence management, however, are often missing—except in highly regulated sectors such as aerospace, defense, and medical technology, where they have long been an established part of supplier qualification. That should change.

6. Industry-Specific Considerations

6.1 Industrial Electronics and Automation

Product lifecycles of 15 to 25 years are common in industrial automation. Controllers, drive systems, and sensor technology frequently remain in service far beyond the lifecycle of the electronic components they contain.

An EMS partner manufacturing industrial control systems or electronic assemblies without systematic lifecycle monitoring is managing an increasing level of risk—one that often only becomes visible when redesigns must be completed under severe time pressure and with limited engineering resources.

6.2 Medical Technology

In the medical technology sector, regulatory requirements significantly increase the impact of component obsolescence. If a component used in an approved medical device must be replaced, the change may require re-validation or regulatory re-approval, depending on the applicable regulations.

An EMS partner with proactive obsolescence management provides OEMs with sufficient lead time to plan these activities without disrupting production. In medical technology, this is not only a matter of operational excellence—it also contributes directly to patient safety.

6.3 Defense and Security Applications

Defense programs are subject to some of the most demanding obsolescence management requirements, often defined by standards such as ASD S3000L. Program lifecycles of 20 to 40 years make continuous lifecycle monitoring essential.

In this sector, professional obsolescence management is not a competitive differentiator—it is a fundamental requirement for supplier qualification. EMS partners operating in this environment are generally expected to demonstrate that their obsolescence management processes comply with IEC 62402:2019 or equivalent industry standards.

6.4 Automotive

Within the automotive industry, IATF 16949 and Customer-Specific Requirements (CSRs) govern many aspects of supply chain reliability. Although obsolescence management is not explicitly addressed by IATF 16949, it is implicitly covered through requirements related to production planning, risk management, and long-term product support.

OEMs and Tier 1 suppliers with long production lifecycles and extended aftermarket support obligations benefit significantly from EMS partners that operate structured obsolescence management processes.

7. Conclusion: Operational Capability Is Measurable—If You Ask the Right Questions.

Obsolescence management remains one of the most overlooked criteria in EMS partner selection—not because it lacks strategic importance, but because it is rarely evaluated systematically. That changes as soon as OEMs incorporate it into their supplier qualification process.

The key message of this white paper can be summarized in three points. First, professional EMS partners manage obsolescence proactively rather than reactively, significantly reducing supply chain risks. Second, IEC 62402:2019 provides an internationally recognized framework for evaluating and comparing obsolescence management capabilities. Third, OEMs that include targeted questions on obsolescence management in their RFQs gain far deeper insight into an EMS partner's operational capability than certificates or equipment lists alone can provide.

Considering obsolescence management as part of the supplier selection process reduces long-term risks, strengthens supply chain resilience, and establishes the foundation for stable, long-term EMS partnerships.

Structured obsolescence management is one of the strongest indicators of an EMS partner's operational capability. Companies that evaluate this discipline systematically during the RFQ process reduce risk, improve supply security, and make better-informed supplier selection decisions.

Further Reading & Studies

For readers who wish to delve deeper into the strategic aspects of modern supply chains, we recommend the white paper by **Fraunhofer Institute for Material Flow and Logistics IML** from the year 2025.

The study shows that the resilience of value creation networks is now one of the decisive competitive factors for industrial companies.

Source: Fraunhofer Institute for Material Flow and Logistics IML (ed.): Whitepaper: Resilience of value creation networks – Systematically unlocking the success factor. From the series: Innovative research impulses shaping the future of logistics. Dortmund, June 2025.

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.

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