

From EMS to E2MS

From contract manufacturing to value-driven collaboration



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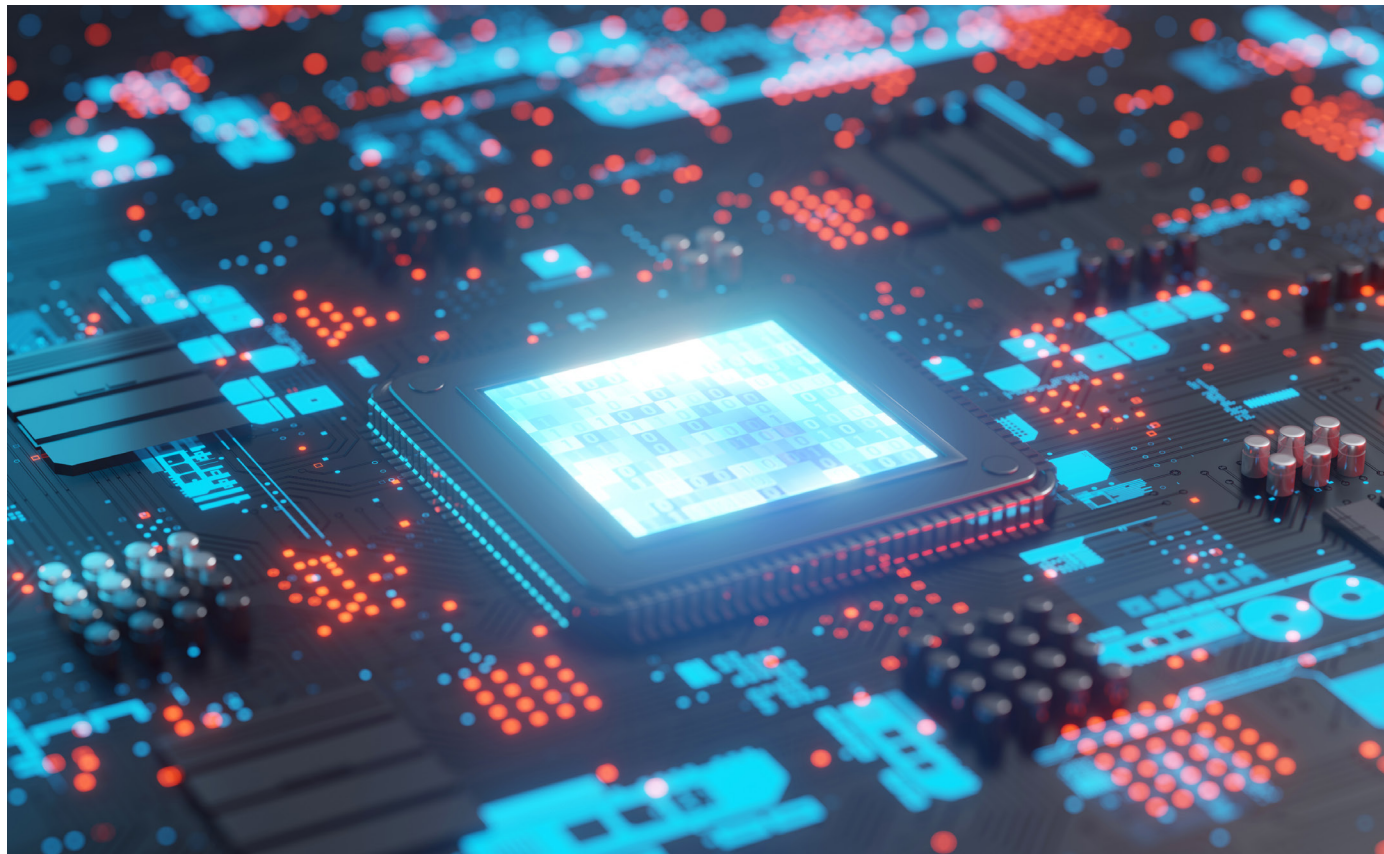
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Introduction

In a market driven by rapid innovation, cost pressure, and supply chain volatility, the relationship between Original Equipment Manufacturers (OEMs) and Electronics Manufacturing Services (EMS) providers is being redefined.

The traditional contract manufacturing model, focused on costs and execution, is giving way to a more collaborative and value-oriented approach. This transformation introduces the concept of E2MS (Engineering to Manufacturing Services): a partner that not only manufactures, but also provides engineering, expertise, and value-added services throughout the entire product lifecycle.

An E2MS supports the OEM from concept to production and operation, applying demanding design quality standards (such as ASPICE) and ensuring efficient and scalable industrialization. This vision of value-driven collaboration differentiates an E2MS from a traditional EMS and positions it as a true strategic partner and operational extension of the OEM.



1

Early collaboration in R+D

Why it matters

Design errors detected late in the process are costly and delay time-to-market. Involving the EMS at the very beginning helps avoid surprises and ensures a smooth industrialization.

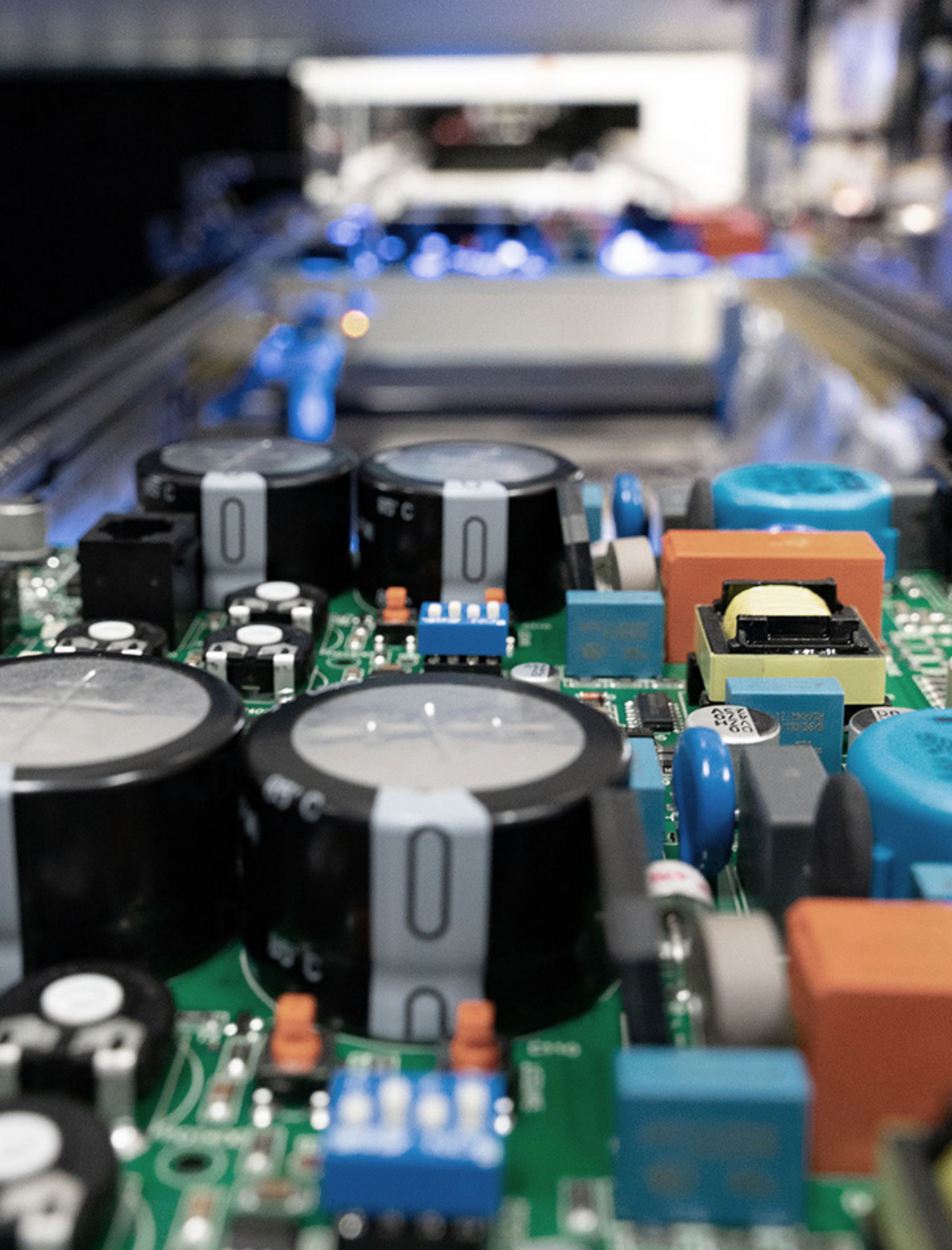
What an E2MS brings to the table

- DFM (Design for Manufacturing) and DFT (Design for Testability) applied from the conceptual phase.
- DFemc capabilities in the laboratory, enabling electromagnetic compatibility validation before official certification and accelerating market access.
- Support in finding alternatives for critical components, leveraging advanced supply chain management tools.
- Ability to design under recognized quality standards (such as ASPICE), ensuring robustness and scalability.
- Speed to market with New Product Introduction (NPI) support, bridging the gap from design to industrialization.

Value for the OEM

Accelerated development, reduced risks, and a safer launch — with a partner who ensures manufacturability and reliability from day one.





2

Dynamic BOM management

Why it matters

Component obsolescence and volatility can put entire projects at risk.

How an E2MS can help

- Continuous BOM monitoring with obsolescence alerts.
- Real-time alternative proposals to prevent production interruptions.
- Integration with resilient domestic and global supply chains, balancing cost efficiency with risk mitigation.
- Regional supply options to reduce border delays and geopolitical risks.
- Supply chain strategies that also consider sustainability goals — optimizing material choices, reducing waste, and enabling more eco-conscious sourcing decisions.

Value for the OEM

Supply security, regulatory compliance, cost stability, and the confidence that product continuity is aligned not only with resilience but also with environmental responsibility.

3

Flexible manufacturing and rapid prototyping

Why it matters

Product lifecycles are increasingly shorter, and companies must be agile to validate designs and scale from prototype to series production quickly.

What a modern E2MS should provide

- Modular production lines that can adapt to demand changes.
- Digital systems (MES) with full traceability and real-time control.
- Scalable high-mix/low-volume capabilities, ensuring efficiency across both small pilot runs and complex product portfolios.
- Rapid prototyping and NPI services that shorten the path from concept to market.
- Manufacturing processes designed for energy efficiency and waste reduction, aligning production agility with sustainability objectives.

Value for the OEM

Reduced time-to-market, scalable flexibility, and the ability to manage product diversity while meeting both quality and environmental expectations.



4 Value-added services pre and post production

Why it matters

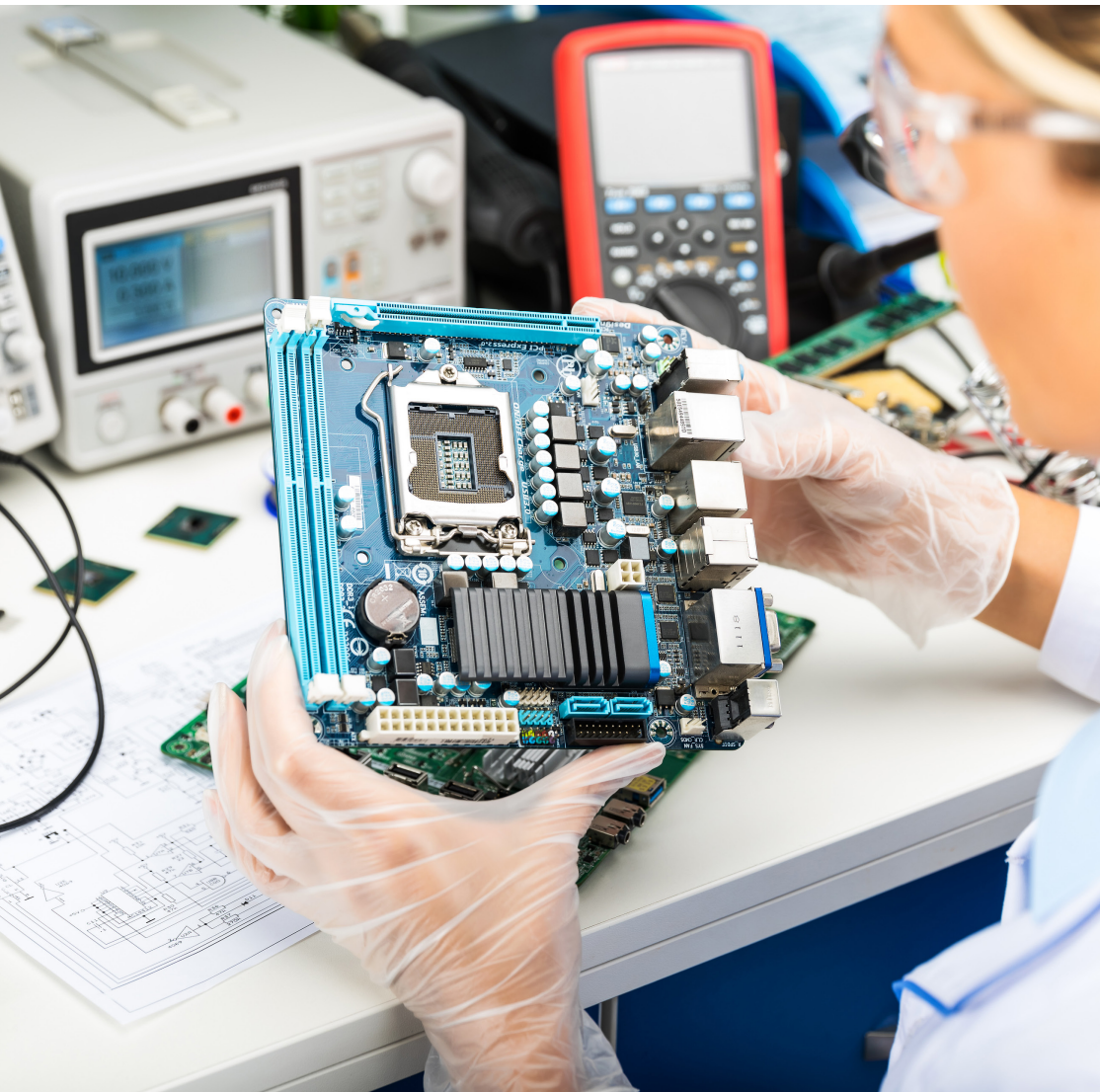
Value neither starts nor ends strictly with manufacturing. OEMs need to ensure product reliability before series production (pre-production) and also require efficient support during the product's lifecycle (post-production).

What a modern E2MS should provide

- Pre-production: Industrial test solutions leveraging modular and flexible systems to validate products before ramp-up.
- Integration of existing test systems: Test engineers able to adopt and quickly integrate the OEM's own equipment.
- Post-production: After-sales and repair services, delivered by a specialized team prepared to respond with agility.
- Test and service operations built on compliance, confidentiality, and continuous validation loops, ensuring reliability in industries where regulations and traceability are mandatory.

Value for the OEM

Validated products before launch, faster ramp-up, and long-term customer trust through transparent, compliant lifecycle services.



5

Organizational evolution

Why it matters

A modern manufacturing partner is no longer just an order executor; it is a strategic ally embedded in the OEM's value chain.

How an E2MS works

- Sales roles are consultative, focusing on solving problems and identifying opportunities.
- Project Managers act as lubricants of collaboration, ensuring smooth alignment between OEM and E2MS teams.
- Multidisciplinary teams integrating engineering, quality, production, supply chain, and test.
- Processes and culture oriented toward acting as an operational extension of the OEM, not as a siloed supplier.

Value for the OEM

Simplified collaboration, fewer frictions, and the certainty of working with a partner that shares responsibility for success.





6

Data exploitation

Why it matters

For modern EMS providers, data is a strategic asset. Transparency, continuous improvement, and compliance all depend on it.

What an E2MS offers

- A fully integrated digital backbone (CRM, ERP, MES, and CMMS).
- Shared dashboards with clients for full transparency.
- Predictive analysis and continuous improvement based on KPIs for quality, OEE, and performance.
- Integration of AI and collaborative robotics (cobots) to optimize processes and ensure consistency.
- End-to-end traceability that guarantees compliance in regulated environments, while also enabling environmental impact tracking such as energy consumption, scrap rates, and recycling performance.

Value for the OEM

Real-time visibility, informed decisions, and confidence that products are delivered with efficiency, transparency, and a measurable contribution to sustainability goals.



Conclusions

The EMS landscape has evolved. No longer simple “product printers,” modern providers must act as strategic partners that combine engineering, manufacturing, and lifecycle services.

DigiProces embraces this E2MS model, which is built on:

- Driving innovation from the design phase.
- Ensuring supply chain resilience through both regional and global networks.
- Providing scalable high-mix/low-volume capabilities.
- Supporting NPI and prototyping for faster speed to market.
- Offering comprehensive pre and post production services.
- Guaranteeing compliance, traceability, and continuous validation.
- Leveraging data, AI, and robotics to continuously improve efficiency and quality.
- Embedding sustainability as a core principle — reducing waste, improving energy efficiency, and offering transparency on environmental impact.

The paradigm has shifted: OEMs no longer seek transactional suppliers, but partners who anticipate, adapt, and secure their success in a volatile and sustainability-driven world.

