Powering Innovation –
Empowering Solutions

FRIWO

Successful Partnerships

OEM Services For Agile Industrial Companies

FRIWO Whitepaper

FRIWO Competencies

Our solutions cover various sectors, from OEM to standard options for power supplies and software-based electronics.

Expertise and experience throughout the entire product development process is crucial for success in a competitive market. Our expertise ensures precise implementation of all phases, from conceptualisation to series production, with seamless integration of engineering and design principles and continuous feedback for improvement.

A deep understanding of product lifecycle management (PLM) enables early challenge identification and solutions to minimise costs, optimise time and improve product quality. This approach accelerates time to market and secures customer requirements and reputation for excellence and innovation.

E-Mobility, Transportation & Logistics

Solutions for electric drive systems, charging technology, power supply and logistics applications.

Medical & Healthcare Solutions

Advanced solutions for medical technology, healthcare devices and diagnostic systems.

Industrial Applications

Automation, manufacturing technology, industrial control systems and food processing.

Specialized Tools & Equipment

High-quality power supplies for tools and specialised equipment in various industries.

Lifestyle Solutions

Products for private use such as household appliances, consumer electronics and smart home systems.

3 of the 10 largest manufacturers of medical technology trust FRIWO

5 out of the 10 largest manufacturers of e-bike drive systems trust FRIWO

FRIWO Footprint

Introduction

Looking back on the events of the last two years, we have to conclude that we are in the midst of global change. The "order" as we have known it until now will no longer exist in this form. The coronavirus pandemic and the conflict in Ukraine have shown us that we are living in a time of upheaval.

Sustainability, digitalization, and dependence on global supply chains describe this change very well. As a manufacturer, you are therefore facing ever greater challenges in both the B2B and B2C markets today.

The development and life cycles of our products are becoming shorter and shorter, while customers, investors, and legislators are demanding the development of more efficient, particularly climate- and environmentally-friendly technologies.

On the following pages, we would like to provide you with a guide on how to successfully master the new circumstances by choosing and working with the right OEM partner.

1 Five key points about OEM partnerships

More and more industrial companies are turning to OEM partnerships to improve their competitiveness in the market.

For companies, collaborating with an OEM on the development and production of new products must generate synergies in order to really pay off in the end.

OEM partnerships require a clear definition of responsibilities and roles within the project teams on both sides from day one.

An OEM partner primarily serves to pool expertise, improve product scalability, and shorten time-to-market.

For an OEM partnership to be successful, the OEM must contribute extensive experience and expertise in the areas of development and research, testing, and production to the collaboration.

2 What is an OEM partnership?

An OEM partnership describes the cooperation between an industrial company and an original equipment manufacturer (OEM) in the development and manufacture of individual components or complete systems. As part of this cooperation, the OEM supports the industrial company in its product development and brand presence.

This can be done, for example, by the OEM partner taking over the development of a subcomponent or component group according to the specifications of the industrial company. Here, the OEM contributes its industry experience and expertise to product development. In practice, the OEM can take care of the entire development process, including testing and certification, produce the components, and deliver them to the industrial company's production site, adapted to the production processes.

In this partnership, the OEM is generally characterized by the fact that it does not market the components and products manufactured for the industrial company under its own brand name. The details of how an OEM partnership is structured are contractually agreed upon by the cooperation partners before the start of the collaboration.

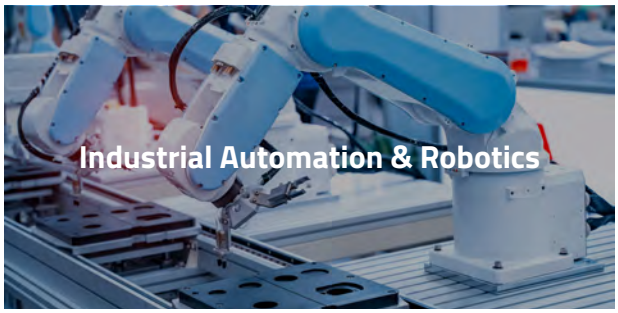
OEM – a term with multiple meanings

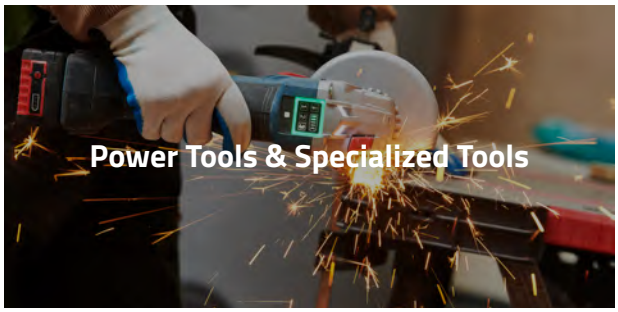
- In most industries, the term Original Equipment Manufacturer refers to a company that manufactures components or devices that are then marketed by another company under its brand name. The term OEM partnership also refers to this meaning.
- In the automotive industry, however, the car manufacturers themselves are referred to as OEMs. In the automotive industry's supplier pyramid model, original equipment manufacturers in the sense of an OEM partnership are equivalent to Tier 1 (systems and modules) or Tier 2 (components) suppliers.
- In the IT industry, hardware and software products that are sold under certain licensing conditions or as bulk goods are labeled as OEM.

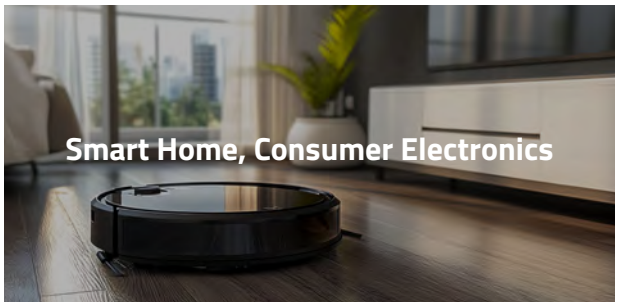
3 OEM partnerships are trending

Industrial collaborations such as those described by OEM partnerships have a long tradition, particularly in the automotive industry. With the advent of series production of vehicles, car manufacturers began many years ago to integrate highly specialized suppliers into their value chains. Today, there is virtually no manufacturer in the automotive industry that can do without close technological cooperation with suppliers.

In recent years, the OEM partnership model has become increasingly prevalent in more and more sectors of the manufacturing industry. Important sectors for OEM partnerships include:







In 2026, more and more industrial companies are relying on OEM partners to bring products to market faster and deliver more reliably in uncertain times. This is confirmed by current industry analyses. Studies also show that development and service activities related to machinery and equipment will grow steadily into the 2030s – a clear indication that demand for external OEM services will continue to rise.

Particularly attractive for customers: after-sales service (maintenance, upgrades, remote support) is growing faster than new business in many areas and generates higher margins – this increases availability and reduces overall operating costs.

4 Why OEM models create so much added value for industrial companies today

1. The challenge

For industrial companies that want to be successful in the consumer or B2B market, the world is spinning faster today than it was 20 or 30 years ago.

Digital transformation has led to unprecedented competition in innovation. New technologies and products are becoming increasingly complex and are emerging at an ever faster pace. Industry boundaries and value chains are shifting, while markets have become globalized, supply chains more fragile, and market trends less predictable.

In the wake of these developments, customer expectations have also shifted: products must offer seamless customer experiences and new technologies should be adapted as quickly as possible. In addition, expectations have become more demanding. Customers want product solutions that are quickly available, tailored to their personal needs, and meet high quality standards.

To keep up in this environment, manufacturers need to act quickly and flexibly. At the same time, however, they also need in-depth specialist knowledge to be able to pick up on innovations and implement them in their products. All this means that anyone who wants to be successful in a competitive market must develop highly complex products in short cycles, which require a considerable amount of hardware and software expertise. At the same time, these products must be developed in agile teams with comprehensive know-how and must meet international standards.

2. The solution

OEM partnerships give industrial companies a real competitive advantage in terms of the following factors:

TIME

Time-to-market has become one of the most important factors for companies to succeed in a competitive environment. OEM partnerships shorten the time required for product development. This is because the OEM contributes its diverse knowledge of suitable products or solutions and its existing infrastructure to the partnership. This saves manufacturers the time-consuming task of setting up new project teams and additional development and production capacities. The OEM's experience also reduces the likelihood of projects dragging on longer than planned or chosen solutions failing completely.

COSTS

Access to the OEM partner's infrastructure significantly reduces the manufacturer's total cost of ownership (TCO). This is because the OEM brings established products, the necessary infrastructure, and access to technical expertise to the partnership. This eliminates all costs for: highly qualified personnel who would have to be found, recruited, hired, and trained on the market; investments in equipment and highly specialized technical devices or the establishment of additional manufacturing capacities; the establishment of new workflows and the long-term maintenance of all these investments.

PRODUCT QUALITY

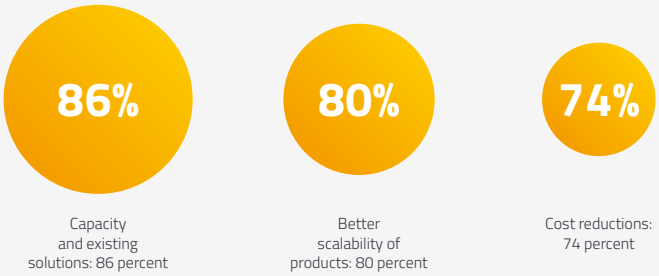
The OEM not only helps the brand manufacturer achieve a shorter time-to-market with lower TCO, but also increases product quality thanks to its product experience and in-depth market knowledge. This not only saves the manufacturer from making mistakes in product components and avoids expensive learning curves that could jeopardize its market position. Rather, the OEM brings a competent partner with industry experience on board, who becomes a guarantor that the competitiveness of the end product will be improved to a certain extent.

STRATEGY

The aforementioned advantages of an OEM partnership give brand manufacturers strategic leeway: companies can concentrate their resources on their own strengths and build on their excellence and market position in these areas. This reduces investment costs that are difficult to calculate. The rapid adaptation of new technologies within the framework of the OEM partnership allows the product portfolio to be adapted to market changes in a more agile and flexible manner and at more predictable costs. Finally, the OEM partnership reduces the risk for a manufacturer of setting new trends and tapping into new markets. The bottom line is that the OEM gives the company a broader strategic base in today's dynamic business world.

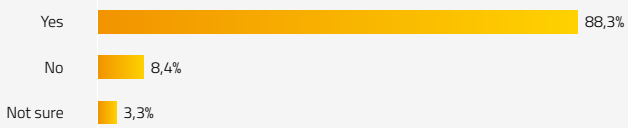
5 Why do manufacturers enter into OEM partnerships?

Why companies choose an OEM partnership



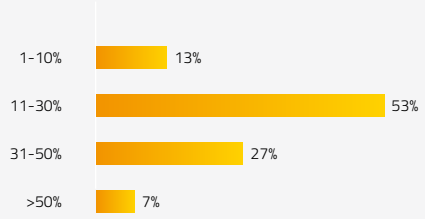
OEM partnership as a guarantee of innovation

Have OEM partnerships helped you overcome barriers to innovation?



Wie OEM Partnerschaften die Time-to-Market verbessern

In welchem Ausmaß hat sich durch OEM-Partnerschaften die Geschwindigkeit erhöht, mit der Sie neue Ideen auf den Markt bringen?



6 What requirements an OEM should meet

As useful as an OEM partnership can be for an industrial company, it is also important to find the right OEM partner. In practice, an OEM must be able to truly fulfill the strategic position assigned to it within the partnership. But how can you tell whether an OEM is a good fit for your company?

TECHNOLOGICAL EXPERTISE

An OEM partnership only makes sense if the OEM is truly proficient in its area of technology. After all, the goal is to work with the OEM to develop outstanding products in a short period of time. That's why companies should make sure that the OEM has all the resources necessary for the collaboration before entering into a partnership.

These include, for example:

- the necessary technological expertise,
- the required infrastructure for development, project management, testing, and manufacturing,
- experience in the field of product qualification and certification.

Tip: The perfect partner brings technological capabilities to the partnership that compensate for the manufacturer's weaknesses and combine with the manufacturer's expertise to create a win-win situation that unlocks synergies.

MARKET EXPERTISE

In addition to technological expertise and suitable products, OEM partners also need in-depth knowledge and experience of the relevant markets and market environment. This means that the OEM should be familiar with:

- the existing product solutions on the market,
- possible regulatory requirements and certification processes,
- the requirements that end users place on the supplied components and the end product,
- the business model of the industrial partner.

OEM EXPERTISE

The OEM must be completely reliable in the partnership. Therefore, the industrial company should ensure that the OEM is fully capable of fulfilling this role.

This means that the OEM should:

- actually provide all the services it contributes to the partnership from a single source and have all the associated processes under control,
- have already established complete process chains and workflows on which the OEM partnership can build,
- possibly have a second international location, provided that this results in a concrete advantage for the project,
- have transparent structures that form a basis of trust for the collaboration.

Tip: A good OEM partner can be recognized by the fact that it has already developed, manufactured, and successfully launched the same or similar components or products for which it is offering its partnership.

STRATEGIC CONVERGENCE

As important as it is for a successful OEM partnership that your skills complement each other and synergies develop, there also needs to be some overlap. This means not only that the "chemistry" should be right from the start, but also that the same expectations should be attached to the collaboration. It is also advantageous if, from the outset, there is a shared view of the market opportunities offered by the cooperation project and the risks are distributed equally.

7 Best practices for an OEM partnership

Like any form of collaboration, the success of an OEM partnership also depends on how it is implemented in practice. On the one hand, this naturally involves general virtues such as trust, open communication, and a clear allocation of roles. In addition, practical experience has identified other "soft factors" that can make an OEM partnership a success story:

+ Before a company enters into a partnership with an OEM, it is important to ensure that the decision to collaborate is supported within the company itself. Since an OEM partnership is also a strategic business decision, it should not only be discussed with the company's C-level executives, but also have their full backing.

+ An OEM partnership requires a clear definition of responsibilities and a clear definition of roles within the project teams from the very first day of collaboration. This applies to both the brand manufacturer and the OEM.

+ On this basis, clear communication structures should also be established at the start of the project: Who talks to whom, who reports to whom? Which channels, tools, or forums are used for communication? How often does communication take place? What are the expectations and goals? How are these communicated and reviewed?

+ Well-maintained, clear project documentation facilitates collaboration. This includes the development of jointly agreed specifications and requirements for the development of all components, component groups, or products at the start of the project.

+ Project management plays a particularly important role in OEM partnerships. It requires established, transparent methods and must integrate both sides of the partnership equally into the project. To this end, all relevant stakeholders must be identified and clear communication established with all parties involved. During the course of the project, project management must ensure that all steps within the project plan are carried out transparently and coordinated with all parties involved.

8 This is how an OEM project works

To optimize process quality, it is important to use established product development methods when implementing the project. This creates a transparent, intelligent process that has many advantages for product development. For this reason, FRIWO, for example, also works with the established Stage-Gate process when implementing OEM partnerships. This process divides product development into clear milestones that are achieved one after the other and transparently record the progress of the project.

Once the joint project has started, an experienced project manager takes care of all project activities and regularly coordinates them with the responsible parties on the industrial company side. Agile development methods are used in the concept and design phase to improve efficiency. In this phase, a comprehensive catalog of requirements is created that is tailored to the product to be developed.

The development process follows the classic V-model, in which product requirements are defined and then verified in the test laboratory according to the dual control principle between development and final acceptance.

The overall product development takes place in a total of seven project phases:

Phase1 Project Start: Begins with a new product idea/OEM inquiry.
Ends with approval to prepare a quote for the customer.

INPUT	OUTPUT
◦ Basic product requirements (PM / Sales)	◦ Concept Idea
◦ Basic commercial data (PM / Sales)	◦ Effort Estimation
	◦ Target Costing (BOM, manufacturing, tools, etc.)
	◦ Potential resource allocation
	◦ FRIWO Business Case & Quotation
	Go / No-go for quotation to customer

Phase 2 Concept: Project kick-off to Concept Freeze.
Ends with FRIWO M2 meeting, approval to proceed to P3

INPUT

- Concept Idea
- Effort Estimation
- Target Costing (BOM, manufacturing, tools, etc.)
- Potential resource allocation
- FRIWO Business Case & Quotation

OUTPUT

- Project Schedule & Documents (PJM
- Refined mech./el./SW specification (R&D + customer)
- Verification Test Plan & Q-Plan; A(1 to x)-functional sample) incl. first tests (R&D)
- Updated project calculation/quotation
- Internal & customer approval to proceed (PJM)

Concept Freeze (meeting) (PJM)

OK to purchase EPR material (SAP Status update, PJM)

Phase 3 Design: Refined design until Design Freeze.
Ends with FRIWO M3 meeting, approval to proceed to P4.

INPUT

- Project Schedule & Documents
- Refined mech./el./SW Specification
- Verification Test & Quality-Plan
- A(1 to x)-functional sample incl. first tests
- Updated project calculation
- Internal & customer approval to proceed

Concept Freeze (meeting)

OK to purchase EPR material

OUTPUT

- Final Technical Specification incl. DFMEA (R&D)
- B(1 to x)-Sample incl. Verification Test Report, FSI & pre-compliance tests, start of long-term tests (R&D/QC/App)
- Production Documents (Jigs, Fixtures, Testers) (PJM)
- Hard tools available (PJM)
- Updated project calculation (Quotation)
- Marketing concept (tbd PJM/marketing)
- Internal & customer approval to proceed (PJM)

Design Freeze (meeting) (PJM)

- Update BOM status in SAP 25 => 30

Phase 4 EPR: Transfer to production and build of engineering pilot.
Approval to proceed to P5 after successful pilot run.

INPUT

- Final Technical Specification incl. DFMEA
- B(1 to x)-Sample (by R&D) incl. Verification Test Report, FSI & pre-compliance tests
- Production Documents (Jigs, Fixtures, Testers)
- Hard tools
- Internal & customer approval to proceed
- Design Freeze (meeting)

OUTPUT

- C-Samples by production (Prod)
- Production Process Documentation (QA/ Prod)
- (Adjusted) Production Equipment (Prod)
- Internal Approval to proceed (PJM)

Phase 5 Qualification: Qualification of C-samples by FRIWO & external laboratories & customer.
Approval to proceed to P6 after pass.

INPUT

- Product Validation Plan
- C-Samples

OUTPUT

- Internal Test Reports – OK from FRIWO laboratory
- External Test Reports – OK from external laboratory
- Certifications / Registrations done (PJM)
- Customer Tests done (PJM)
- Internal & customer approval to proceed to SOP (PJM)
- Marketing Material (tbd)
- 1st RFQs / POs (check begins with M3)

Phase 6: SOP

A first customer order is fulfilled this can be either

A normal order (no further customer approval intended)

Or a production pilot run (small batch produced for final customer approval)

Phase 7: Closing

Acceptance & Handover

Formal acceptance by the customer

Handover of all deliverables

9 FRIWO – OEM partnership with German Engineering

Do you need a suitable solution for power supply or charging technology in product development?
Then we should talk!

FRIWO is the ideal OEM service provider for industrial companies looking for a competent partner for the development and production of reliable electronic solutions.

As a comprehensive expert in customer-specific power supply and charging solutions, we offer you a one-stop service from a single source. Our engineering teams in Germany are responsible for and accompany the development of suitable solutions from the initial idea to the finished product.

In addition to our knowledge and many years of experience, we bring numerous high-quality engineering tools to the OEM partnership. We carry out all necessary tests and inspections, including long-term reliability tests, at our own test facility.

An OEM partnership with FRIWO means that you can concentrate on your strengths in the development and production of new products, while we deliver the right solution for high-quality power supplies, chargers, battery packs, and intelligent components and systems for electric drives.

This pays off for you in several ways:

EXCELLENT PRODUCT QUALITY

SHORTER TIME-TO-MARKET FOR THE DEVELOPMENT OF NEW PRODUCTS

AVOIDING CAPACITY BOTTLENECKS OR CAPACITY SURPLUSES

LOWER BUSINESS RISK

NO INVESTMENT IN THE DEVELOPMENT AND PRODUCTION OF NEW TECHNOLOGIES

Do you have questions or specific projects?

We are your extended workbench and accompany you from the manufacture of the complete devices and systems through testing and packaging to delivery to your customers.

Your competent contact at FRIWO

Gerrit Menzel

Head of Key Account Management

+49 2532 81 201

gerrit.menzel@friwo.com

More about us

Website
friwo.com

Webshop
friwo-shop.com

LinkedIn
linkedin.com/friwo

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FRIWO Gerätebau GmbH

Administration & Sales
Telgter Straße 12
48346 Ostbevern ▪ Germany

Tech Center
Von-Liebig-Straße 11
D-48346 Ostbevern ▪ Germany

www.friwo.com
hello@friwo.com

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