



## STRATEGIC BRIEF

# Collaborative Manufacturing Hubs in Indien

*Shared infrastructure as an alternative to traditional EMS outsourcing*

Dirk Kaussen | EMS Strategy Group | Rev.: 1.1 | August 24, 2026

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India is increasingly coming into focus for Western electronics and industrial companies as part of their China+1 diversification strategies. However, entering the Indian market can be challenging. Land acquisition, permitting, and infrastructure development require capital and time that many mid-sized OEMs cannot or do not want to invest on their own.

An approach building on existing concepts such as industrial clusters, common facility centers, and shared manufacturing infrastructure could be particularly attractive for mid-sized European companies. EMS Strategy Group proposes the **Collaborative Manufacturing Hub (CMH)** as a future-oriented model based on these established concepts.

A CMH enables several companies, ideally with complementary requirements, to share selected infrastructure and services while keeping their respective production processes, data, and intellectual property separate.

The model combines elements of an in-house manufacturing operation with the advantages of shared infrastructure. It can therefore provide an alternative between fully in-house manufacturing and traditional EMS outsourcing.

## 1. The concept: Shared Infrastructure, Independent Manufacturing

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A Collaborative Manufacturing Hub (CMH) brings together several companies at a shared manufacturing site. The participating companies share selected infrastructure, buildings, utilities, and administrative services, while their respective products, production processes, customer data, and intellectual property remain separate.

The key difference from a traditional EMS arrangement is **control over one's own manufacturing**. A company that relies entirely on an EMS provider remains dependent in important areas on that provider's capacity, priorities, investment decisions, and long-term strategy. A CMH takes a different approach. The company establishes its own manufacturing presence in India while benefiting from shared infrastructure and services.

For mid-sized European companies, this can significantly lower the barriers to entering the Indian market. Land, buildings, utilities, permits, security infrastructure, and certain administrative functions do not have to be developed and financed entirely by each individual company.

At the same time, operational responsibility for each company's own manufacturing remains with that company. Shared structures are used where this makes economic sense, while company-specific production and business activities remain separate.

### Why a hub instead of a pure EMS solution?

An EMS model offers flexibility and a comparatively fast route to market. However, it also means that the company's manufacturing activities are fully integrated into the organization and priorities of an external manufacturing partner.

A CMH follows a different approach. The company establishes its own industrial presence in India without having to build and finance the entire supporting infrastructure independently.

The main advantages include:

- **Lower investment risk**, because selected infrastructure can be jointly financed and used
- **Faster market entry**, because the location, infrastructure, and selected administrative structures can be developed jointly

- **Greater control over manufacturing**, without having to bear the full cost of the supporting infrastructure alone
- **Improved scalability**, because infrastructure and selected services can be expanded jointly as the participating companies grow
- **Local presence**, supporting procurement, customer service, supplier development, and the establishment of an Indian supply chain
- **Synergies between partners**, for example in logistics, maintenance, quality services, purchasing, and technical services
- **Reduced dependence on a single EMS provider**, particularly for strategically important long-term manufacturing

A CMH should therefore not be viewed as a replacement for EMS manufacturing. Rather, it represents a **third option between fully in-house manufacturing and complete outsourcing**.

The model is particularly relevant where several companies can contribute sufficient manufacturing volume or shared infrastructure requirements to make the joint use of fixed-cost infrastructure economically viable. High production volumes can improve the economics, but they are not necessarily a prerequisite. The key factor is the degree to which infrastructure and operating costs can be shared across several companies.

## 2. Funding landscape and economic framework

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Government support programs can improve the economic attractiveness of a manufacturing operation in India. Various incentive and support programs exist for electronics and related industries at both the central government and state levels.

It is important to distinguish between the individual programs. Production Linked Incentive (PLI) programs are targeted at specific product and manufacturing segments and are subject to defined eligibility criteria, investment requirements, and production targets. They are therefore not generally available to every company or every manufacturing project.

For CMH planning, other support instruments may also be relevant. These include programs aimed at developing electronics manufacturing sites and establishing shared industrial infrastructure. India's Ministry of Electronics and Information Technology (MeitY), for example, supports Electronics Manufacturing Cluster programs designed to facilitate common industrial infrastructure for the electronics sector.

For a hub model, joint site development can therefore be economically attractive. Several companies can plan and develop infrastructure, services, and selected investments together instead of establishing these structures independently.

Funding programs should be considered at an early stage of site and hub planning. The objective should not be to assume that a joint project automatically qualifies for a specific PLI program. Instead, the relevant programs should be assessed before the site decision is made, taking into account the specific product, planned investment, eligibility requirements, and the individual participating company.

Funding considerations should therefore form part of the overall business case and site strategy rather than being treated as a subsequent optimization step.

### 3. Cost and risk sharing in day-to-day operations

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The economic advantages of a Collaborative Manufacturing Hub extend beyond the initial development of the site and into day-to-day operations. When buildings, utilities, and selected services are shared by several companies, the associated capital and operating costs can be distributed across multiple partners.

This can be particularly beneficial for infrastructure that is required by each company but would not be fully utilized if operated independently. Examples include energy supply, water and wastewater systems, security infrastructure, storage and logistics facilities, maintenance, and selected technical and administrative services.

Location and development risks can also be reduced by using an existing industrial site or jointly planned infrastructure. The participating companies do not each have to acquire and develop their own land or establish all supply and service facilities independently.

Additional synergies may arise in logistics, local services, and selected procurement activities. A hub with several companies can represent a larger combined demand volume for service providers and infrastructure partners than an individual manufacturing site.

The economic advantage therefore does not arise solely from lower land or construction costs. The key factor is the **shared use of infrastructure and services that would otherwise create significant fixed costs for each individual company**.

### 4. Synergies, governance and intellectual property protection

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The key advantage of a Collaborative Manufacturing Hub is not that the participating companies connect or combine their production processes. On the contrary, a successful hub structure must **enable shared use while maintaining clear separation**.

Examples of resources that may be shared include:

- Buildings and general infrastructure
- Energy, water, and utility systems
- Security and access systems
- Warehouse and logistics areas
- Maintenance and technical services
- Selected testing and laboratory facilities
- Selected administrative services
- Local compliance and site-related expertise

The actual production processes, however, remain under the control of the respective company. Production lines, manufacturing parameters, bills of materials, customer data, quality data, development documents, and other intellectual property must remain clearly separated.

#### IP Protection and Information Security

The protection of intellectual property is therefore a key prerequisite for a functioning hub model. This separation must be implemented both physically and digitally.

Measures may include separate production areas, controlled access rights, separate IT and data networks, and clearly defined rules governing the handling of documents, production data, and technical information.

Shared infrastructure does not automatically mean shared access to production or company data. The respective rights, responsibilities, and access rules should be defined contractually and organizationally before the hub becomes operational.

### The Additional Advantage of a Shared Location

In addition to direct infrastructure and cost synergies, a hub can provide another advantage. Several companies can build local experience together and respond more effectively to the requirements of the Indian market.

This can include knowledge of local authorities, labor law, suppliers, logistics, compliance, and administrative processes. An experienced local partner or facilitator can play an important bridging role between the participating companies, local authorities, service providers, and business partners, particularly during the start-up phase.

A structured exchange of experience between hub partners can further shorten the learning curve. However, this exchange should be clearly defined and appropriately governed. Production, customer, technology, and other commercially sensitive information must not become part of an unrestricted exchange between the participating companies.

Clear rules are also advisable regarding personnel. The geographical proximity of several companies can increase competition for qualified employees. Agreements covering recruitment and the targeted hiring of employees from other hub partners should therefore be considered before operations begin.

**At the same time, effective local management requires an understanding of Indian employment practices, communication styles, and workplace culture. Companies should therefore establish clear management structures while allowing sufficient flexibility for local practices.**

## 5. Strategic Roadmap

The development of a Collaborative Manufacturing Hub should be approached in stages. The strategic, economic, and organizational foundations should be clarified before a final site decision is made.

- **Partner sourcing:** Identify companies with complementary and, ideally, non-competing requirements. Also assess whether an experienced local partner or facilitator should be involved. Such a partner can support the participating companies in dealing with local authorities, permitting processes, service providers, labor issues, and local business networks, particularly during the establishment phase.
- **Business case:** Assess investments, operating costs, shared infrastructure, and individual manufacturing costs separately to determine the economic benefit for each partner.
- **Location selection:** Consider the availability of skilled labor, suppliers, logistics, infrastructure, established industrial clusters, and the suitability of the region for the target industry. Established manufacturing centers such as Pune, Chennai, and Noida may offer advantages depending on the sector and requirements.
- **Funding programs:** Review relevant central and state-level incentive and support programs at an early stage and assess their specific applicability to the planned investment.

- **Governance:** Clearly define ownership, decision-making rights, cost allocation, facility management, shared services, and responsibilities through appropriate contractual arrangements.
- **IP and IT security:** Define and implement the physical and digital separation of the participating companies before operations begin.
- **Scaling:** Define how additional partners can be integrated and how an individual company can leave the hub or transition to its own manufacturing site once production volume, strategic importance, or operational requirements justify a standalone facility. The hub should therefore provide a scalable path from initial market entry to an independent manufacturing operation.
- **Implementation plan:** Integrate site development, permits, infrastructure, equipment, personnel, and production start-up into a realistic implementation schedule.

## Conclusion

A Collaborative Manufacturing Hub can significantly reduce the barriers to establishing a manufacturing presence in India. Companies can gain access to local infrastructure, skilled labor, and supply networks without having to bear the full cost and risk of developing an independent site. At the same time, they can retain control over their own manufacturing operations.

The success of the model depends largely on how the hub is structured. Shared infrastructure, independent production, and the protection of data and intellectual property must be clearly separated from the outset. Governance, cost allocation, responsibilities, and potential exit and scaling scenarios should likewise be defined at an early stage.

For companies seeking to establish their own manufacturing presence in India while reducing the investment and risk associated with a fully independent site, a CMH can therefore represent an interesting alternative between traditional EMS outsourcing and a completely in-house manufacturing operation.

### 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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