

SPECTRUM

THE IE GROUP MAGAZINE

Logistics

Is greater efficiency in logistics primarily a question of the right technology? IE shows where the greatest potential lies: in the perfect coordination of material flow, production processes, and building structure.



The specialist for industrial buildings.





LOGISTICS WITHOUT COMPROMISE

Material flow, production, and buildings in harmony

Ever shorter delivery times coupled with growing product ranges, increasingly networked supply chains with tightly scheduled delivery plans: the challenges facing companies' logistics departments are numerous. But this also presents an opportunity: Those who are well positioned in logistics can gain a decisive competitive advantage in highly competitive markets.

But how? In intralogistics in particular, I often find that companies spend a lot of time at the outset thinking about the technical side of logistics, such as which conveyor technology, which storage systems, or which software to use. If you want to optimize your own logistics, you should put the question of the right technology on the back burner. The real potential for efficiency lies in the perfect coordination of material flow, production processes, and the optimal building structure. A holistic view of all processes and their interconnection is crucial for manufacturing companies.

At IE, we help you create precisely this basis for optimal logistics. Our logistics experts work hand in hand with architects and engineers from your industry who can immediately dive deep into your manufacturing processes and workflows. This is how we link operations, logistics, and construction planning. Put your trust in a partner who takes a neutral and holistic view of your situation.

We combine the requirements of architects and civil engineers, plant suppliers, and authorities into a complete package that is tailored precisely to your needs. Logistics without compromise — that's what IE stands for.

Dalibor Zečić
Product Manager Logistics IE Zurich

Florian Alexander
Head of Logistics IE Munich

SIMPLY WELL THOUGHT OUT



Hauptlager



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9000 Palette mit 15.000 Positionen. Wir sind sehr stolz,
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MANY COOKS REFINE THE MENU

Optimization of logistics: Teamwork prevents isolated solutions

"If only it were that easy!" This sigh is on the lips of many entrepreneurs when they are presented with modern high-performance factories as shining examples: modern buildings with enough space to arrange all process steps logically; highly automated processes without detours or time losses. Many companies can only dream of such conditions, given the structures that have developed in industrial buildings that are often decades old. But regardless of whether it's a traditional location or a new building on a greenfield site, optimizing logistics offers enormous potential for efficiency — including for production. Provided you have all the ingredients in view.

The efficiency of a manufacturing company depends on a variety of factors. However, while production processes can be improved relatively easily with the help of state-of-the-art manufacturing technology, companies quickly reach their limits when it comes to intralogistics. Like a spider's web, all the threads come together here. It is not individual machines that determine the performance of logistics, but the complex interplay of goods flow, supply systems, space and routes, software, and conveyor technology. A company site with multiple extensions and winding paths can therefore quickly become a limiting factor for the efficiency of the entire operation.

Technology: important — but not decisive

"In many projects, we find that companies focus heavily on the technological side of logistics: the right conveyor technology, the optimal software solution, the best warehouse technology," explains Florian Alexander, Head of Logistics at IE Munich. "These are important factors, but it's like putting the cart before the horse: the first step is to gain a precise understanding of the overall system: could the architecture and layout of the buildings lead to efficiency losses? How do production technology, warehousing, transport routes, and supply systems fit together? Where are the bottlenecks and how could they be eliminated? Without this holistic perspective, the systems

will not reach their full potential. Operating costs will then quickly rise to unacceptable levels because adjustments will have to be made at every turn — day after day."

This technology-oriented view of logistics is driven by the suppliers of corresponding products and systems. A manufacturer of conveyor technology is strongly focused on its systems and is less concerned with the optimal integration of the customer's overall system. However, many isolated solutions that are perfect in themselves do not necessarily add up to a perfect overall solution. They remain piecemeal.

Practitioners at work: all experts around one table

IE bridges this gap between suppliers of individual products and systems. Industrial construction know-how, logistics expertise, and operations planning expertise come together at IE to form a holistic view of a company. Instead of pursuing the interests of a product supplier, IE pursues the customer's overarching goal: greater efficiency across the entire business. To ensure that all the pieces fit together perfectly, IE employs architects, civil engineers, logistics specialists, and specialist engineers from To ensure that all the pieces fit together perfectly, IE employs architects, civil engineers, logistics specialists,

and specialist engineers from five different industries who are highly familiar with the specific production conditions of these industries.

"Many companies have had bad experiences with consultants whose plans look good in theory but are difficult to implement in practice," says Florian Alexander.

⇒ *„Our customers particularly appreciate that we don't just give good advice: we are committed to realizing their goals — from the initial brainstorming to implementation. We provide guarantees for costs, functionality, quality, and deadlines.“*

Thomas Rieger, Managing Director IE Technology Zurich

**Feasibility study:
putting creative ideas to the test**

A systematic approach is central to IE's projects. It ensures that all perspectives of the various technical experts are taken into account and that the many individual pieces of the puzzle form a coherent picture. The foundation is laid by a feasibility study. "Companies usually approach us with initial optimization ideas," says Dalibor Zecic, describing the typical starting point for a project. "In most cases, companies are not focused on logistics, but rather on production processes. We then review the customer's initial proposals by taking a close look at the factory and

developing ideas on how we can best achieve their goals. The feasibility study often shows that optimizing logistics is a key lever that can also be used to improve production processes."

The feasibility study is therefore a key tool for IE, because it brings all the experts together to lay the foundations for the entire project. Customers are involved as much as possible. Only when their experience and knowledge are incorporated can a complete picture of the situation be obtained. And it is precisely in this initial phase that there is room for ideas that can give the entire project a decisive turn. These may be improvements that seem small at first glance but have a big impact.

**Solid basis for decision-making:
all the facts on the table**

Based on the company's goals and the problems analyzed, all ideas are put to the test and weighed against each other as part of the feasibility study. Only through a holistic view of the entire logistics chain does the optimal solution emerge. IE quantifies the advantages in concrete terms — whether it's consolidating warehouses, reducing handling and transport costs, or improving delivery service.

"For customers, the feasibility analysis is a soft entry point," says Dalibor Zecic. "It allows them to get to know how we work and also gives them a sound basis for making decisions about their project: several alternative scenarios are calculated, each with a clear cost-benefit ratio. This means that all the facts are on the table for the project decision to be made. Based on their experience with the feasibility analysis, customers can decide whether IE should carry out the planning and execution." ◀



Logistics



COMBINATION OF OPERATIONS,
LOGISTICS, AND CONSTRUCTION
EXPERTISE

Logistics feasibility study

1. ASSESSMENT OF THE SITUATION AND TASKS

- ✓ Project organization
- ✓ Project objectives
- ✓ Framework conditions
- ✓ Basic evaluation
- ✓ Checklist of required documents

2. ANALYSIS OF THE SITUATION AND DEFINITION OF TARGET REQUIREMENTS

- ✓ Personnel structure
- ✓ Process flows
- ✓ Key figure determination
- ✓ SWOT analysis
- ✓ Space allocation plan
- ✓ Actual quantity structure
- ✓ Target quantity structure

3. DEVELOPMENT OF ALTERNATIVE SOLUTIONS

- ✓ Material flow concept
- ✓ Personnel and traffic flow concept
- ✓ Logistics system
- ✓ Warehousing and conveyor technology
- ✓ Target area determination
- ✓ Determination of building and building services structure

4. VARIANT COMPARISON AND ROUGH COST ESTIMATE

- ✓ Variant comparison and logistics systems
- ✓ Variant comparison of storage and conveyor technology concepts
- ✓ Rough cost estimate for logistics
- ✓ Rough cost estimate for the buildings
- ✓ Presentation of workflows and processes in a system diagram

5. DECISION AND PRESENTATION OF THE TARGET LOGISTICS CONCEPT

- ✓ The variants are compared and evaluated, and the optimal and most economical solution is selected
- ✓ The selected target logistics concept is described functionally in a presentation, and the approximate costs are presented. This document serves as a basis for decision-making

6. REPORT ON THE RESULTS OF THE FEASIBILITY STUDY

- ✓ The results of the feasibility study will be compiled and presented in a report and will serve as the basis for further work on the project
 - ✓ The project will be implemented at the next stage of concept planning
-

INTRALOGISTICS I: SEMI-AUTOMATED – WITH UNUSUAL STORAGE TECHNOLOGY

Less space, more efficiency

When companies have multiple production sites and are growing, the question arises: Which of the factories should be expanded, and does it make sense to centralize certain functions at one location? A manufacturer of packaging materials faced precisely this situation and wanted to consolidate its two decentralized warehouses at one of the two production sites.

IE was commissioned with the general planning of the new central warehouse. The challenge: only 10,000 m² of space was available. As part of a feasibility study, IE examined possible options and came to the conclusion that although the available space was limited, a space-saving design would allow the required throughput of up to 100 pallets per hour to be achieved.

Automation: not at any price

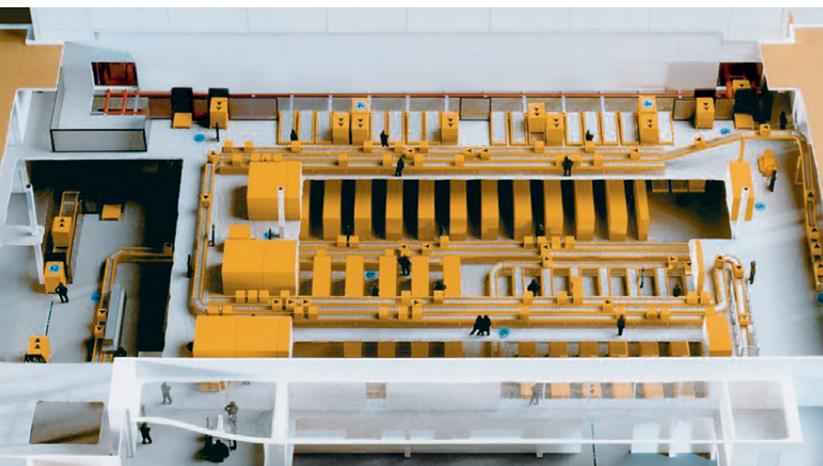
When searching for the most efficient logistics solution possible, the question of the degree of automation quickly arose. The customer wanted the warehouse processes to be automated as much as possible. However, relatively

complex picking processes were the deciding factor for IE to recommend the following solution: Storage and retrieval are fully automated, while picking continues to be manual.

Coordinated: Architecture and storage technology

To make the remaining manual processes as efficient as possible, IE relied on a clever combination of warehouse technology and architectural solutions: the picking stations are integrated directly into the high-bay warehouse, minimizing the distances employees have to cover. However, this was only possible with the help of a technical trick: IE relied on a floor-free rack operating device that does not require a guide rail on the floor of the rack aisle. This allows the picking tunnels to be bridged without any problems.

The advantages of this customer-tailored plan are clear: thanks to its design as a suitably automated high-bay warehouse and the close coordination of storage technology and architecture, the warehouse requires less space — despite significantly increased capacity. In addition, processes are much faster and operating costs for warehouse logistics are less than half of what they were before the consolidation. ◀



⇒ *„08/15 Architecture from IE? That doesn't exist! We first take a close look at the processes in operation and then plan the building consistently from the inside out.“*

Tobias Rosenbaum, Managing Director IE Food Munich



INTRALOGISTICS II: FULLY AUTOMATED – WITH DUAL-USE INFRASTRUCTURE

Increase capacity, reduce personnel and operating costs

A food manufacturer's new product sold so well that production and storage capacities had to be significantly expanded. This posed a huge challenge for logistics: several billion units per year were to be produced in the future, 24 hours a day.

⇒ *„IE's logistics solution not only saves the customer personnel and operating costs, but is also at the heart of the entire project. Without the best possible coordination of production and logistics and without an efficient and largely automated flow of goods, it would not be possible to produce the required quantities.“*

Benedikt Sticht, Managing Director IE Plast Munich

Against this backdrop, IE designed an almost completely automated flow of goods. The only manual steps are loading and unloading the trains and trucks. Conveyor belts transport the raw materials directly from the loading dock to the automated high-bay warehouse and from there on to production.

The special trick of the solution: Both the raw materials and the finished products are completely covered by the same logistics infrastructure. Whether it's storage or retrieval, supplying production, transporting goods to customers, or order picking: everything is done with the same conveyor system and the same high-bay warehouse.

A logistics layer for 24-hour production

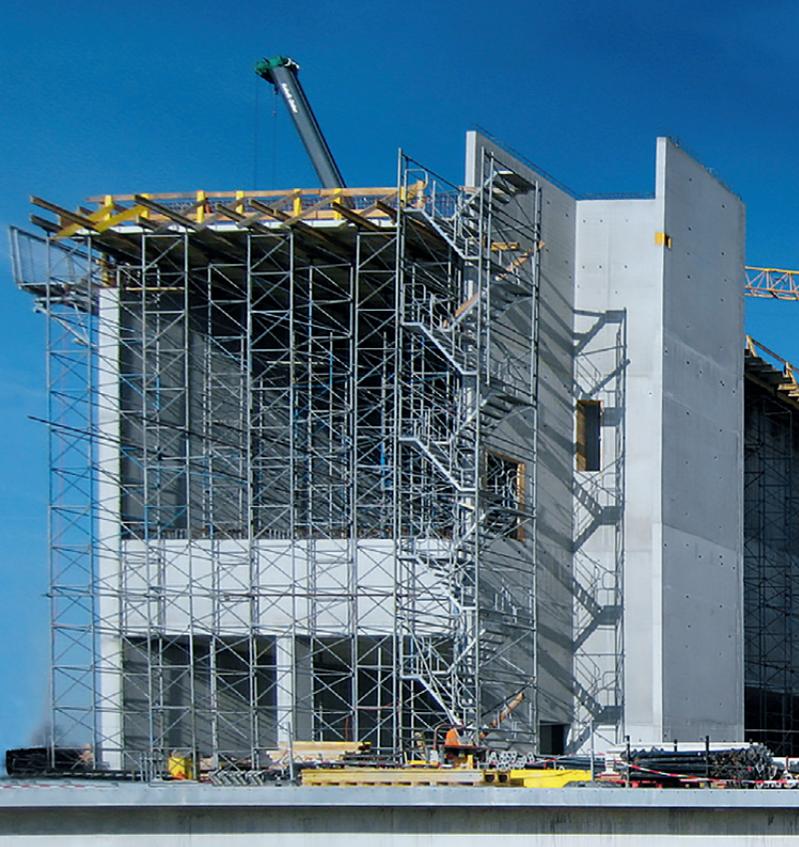
The fully automated linking of production and warehouse allows production to run 24 hours a day without the need for continuous logistics staff. While the machines run around the clock, one shift is sufficient for loading and unloading trains and trucks. ◀

Our added value: industry experience plus logistics expertise

During your first meeting with IE, you will quickly realize that you have a partner who not only understands your everyday concerns, but also finds new solutions tailored to your specific situation. At the table are not only logistics experts, but also specialists in operations and construction planning with extensive industry experience.

This enables us to quickly familiarize ourselves with your workflows and production processes and implement the solutions developed with you in the construction. The result: an industrial building that optimally supports your production processes and logistics.





Our range of services

DEVELOPMENT

- ✓ Goal-setting workshops
- ✓ Investment strategies
- ✓ Feasibility studies
- ✓ Site structure plan/master plan
- ✓ Industry trends

PRODUCTION TECHNOLOGY

- ✓ Requirement profiles
- ✓ Tenders
- ✓ Technical comparison
- ✓ Draft contracts
- ✓ Specifications
- ✓ Commissioning

OPERATIONS PLANNING

- ✓ Requirements planning
- ✓ Operating concepts
- ✓ Process plant planning
- ✓ Hygiene concepts
- ✓ Logistics concepts

CONSTRUCTION PLANNING

- ✓ New buildings
- ✓ Conversions
- ✓ Extensions for production, administration, and warehouse buildings

EXECUTION

- ✓ Construction management
- ✓ Construction supervision
- ✓ Coordination of operations, building services, and construction
- ✓ Guarantees for costs, deadlines, function, and quality
- ✓ Documentation



PROJECT MANAGEMENT



Our logistics experts have one goal in mind: the optimal interplay of goods and people flow, supply systems, space and routes, software, and conveyor technology. That's why we devote ourselves to even seemingly small details without losing sight of the big picture.

Our logistics experts are involved in the process from planning to construction of the industrial building. This is how many pieces of the puzzle come together to form a coherent whole that guarantees one thing: maximum efficiency during ongoing production.



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