

# SPECTRUM

THE IE GROUP MAGAZINE

## Efficient Pharma-Logistics

GMP, GDP, new pharmaceutical legislation - the demands placed on logistics chains in the pharmaceutical industry are constantly increasing. IE shows how the optimal coordination of material flow, production processes, and building structure will become a decisive success factor for pharmaceutical logistics in the future.



The specialist for industrial buildings.



# OUR RECIPE FOR SUCCESS IN PHARMACEUTICAL LOGISTICS

## Comprehensive logistics planning pays off

The goal of perfect logistics planning for the pharmaceutical industry is simple: an optimal combination of safety, speed, and efficiency. The path to achieving this is much more complicated. Challenges such as the coronavirus pandemic and the new Medicines Act mean that the pharmaceutical industry's supply chain is in a state of constant flux, and strict legal requirements make logistics and intralogistics in the pharmaceutical sector extremely challenging.

Compliance with the relevant GMP and GDP regulations in particular is one of the most demanding logistics tasks faced not only by pharmaceutical manufacturers and importers, but also by pharmaceutical companies, wholesalers, and their suppliers. Manual and automated intralogistics, including warehousing, are increasingly proving to be a decisive factor in ensuring reliable compliance with all requirements.

One of the outstanding strengths of the IE Group is its ability to examine and optimize these factors as part of a holistic logistics planning process. We have decades of experience in the planning and execution of industrial buildings, including their logistical processes for the pharmaceutical and medical technology industries. Thanks to our in-depth knowledge of the relevant regulations, the IE Group can provide logistics planning, construction, and qualification from a single source.

**The result:** fully GMP/GDP-compliant intralogistics solutions that offer triple added value through the optimal coordination of material flow, production processes, and building structure: **greater safety, greater speed, and greater efficiency.**

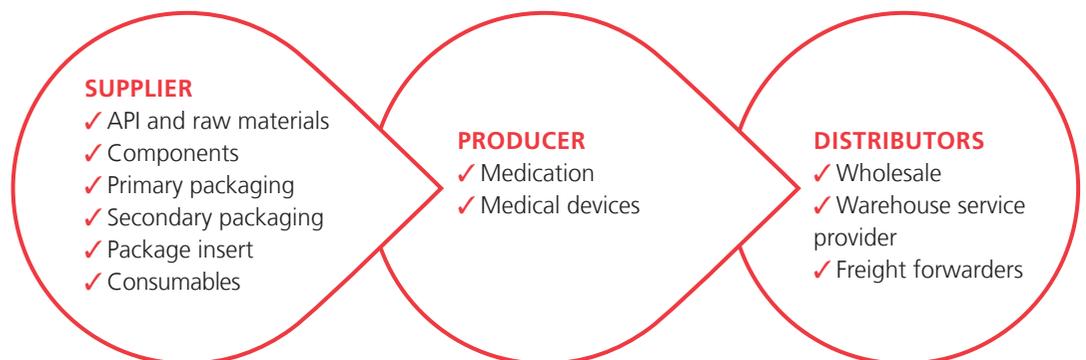
# GMP- AND GDP-COMPLIANT LOGISTICS SOLUTIONS

## Patient safety without any ifs or buts

**Patient safety is number one priority - to ensure this, the EU has issued strict regulations for the manufacture and logistics of pharmaceuticals and medical devices in the form of the GMP and GDP guidelines.**

While Good Manufacturing Practice (GMP) regulates all activities related to the manufacture of pharmaceutical products - including testing, release, and storage - Good Distribution Practice (GDP) is a guideline for distribution, including transport, storage, and wholesale.

It is intended to ensure maximum product safety throughout the entire supply chain and affects not only pharmaceutical manufacturers but also their suppliers, wholesalers, and logistics service providers. For example, manufacturers of primary packaging materials, suppliers of package inserts and packaging materials, and suppliers of cleanroom consumables are affected.



*„The pharmaceutical industry is definitely one of the most demanding logistics sectors. That is why we exclusively employ specialized industry experts and can therefore guarantee complete GMP- and GDP-compliant solutions for all participants in the supply chain.“*

Florian Alexander,  
Head of Logistics, IE Group Munich

GMP + GDP = IE.

# WAREHOUSE LOGISTICS

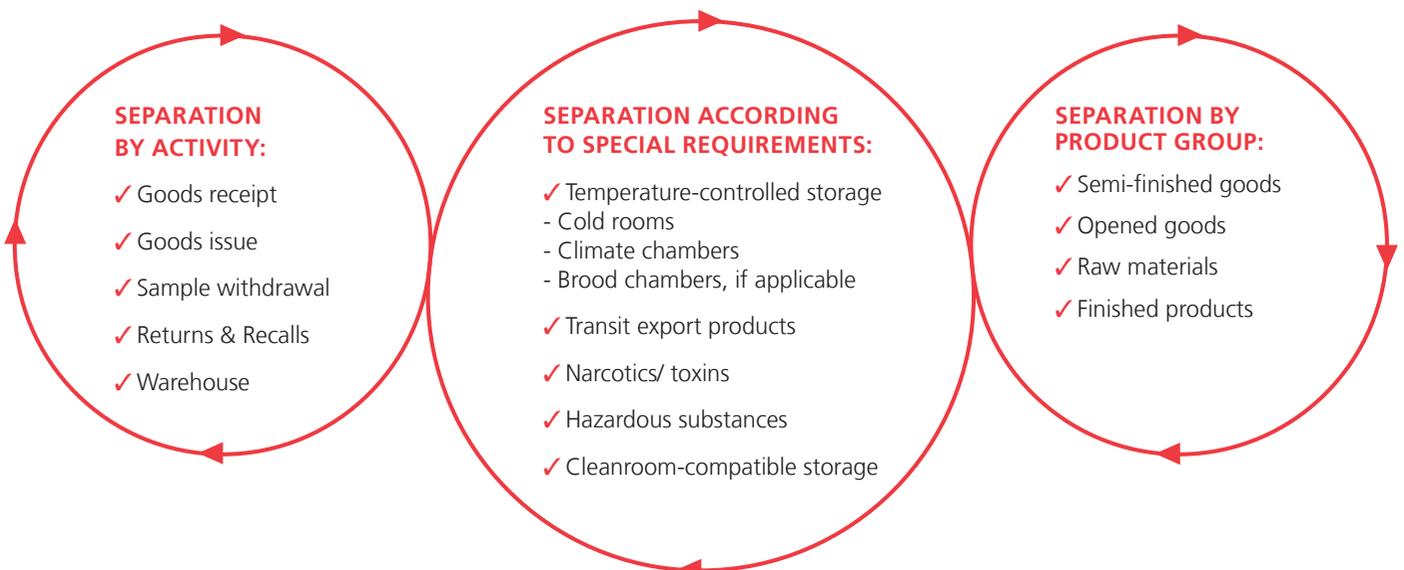
## Get into the profit zone faster: with efficient material flows in intralogistics

In addition to production, warehousing is becoming an increasingly important focus of pharmaceutical logistics. Due to a huge range of items with a wide variety of requirements, storage buildings often have to meet a wide variety of conditions. In order to ensure maximum security, the fastest possible accessibility, and efficient use of space, it makes sense to have customized zone divisions - e.g., according to activities or product groups.

Optimal warehouse layout can significantly increase the safety and efficiency of material flows - especially when, as is the case with the IE Group, the building structure is already incorporated into the logistics planning. Based on legal requirements and the company's individual pharmaceutical-specific requirements, the necessary storage zones can be optimally separated.



## Separate material flows for maximum safety.





## SAFETY CONCEPT

### Intralogistics without risks or side effects

In order to offer every customer the best possible implementation of GMP/GDP guidelines, IE experts plan on a risk-based and requirements-oriented basis. We have outstanding expertise in all GMP/GDP-relevant areas and our planning enables the reliable elimination of safety risks.

#### **Hygienic Design**

Through hygienic design and the implementation of suitable hygiene concepts, we ensure that all hygiene requirements are met, simplify cleaning processes, and reduce downtime.

#### **Risk-based qualification**

Through risk-based qualification and validation of processes and systems, we enable our customers to reduce the workload and costs associated with GMP-compliant qualification without compromising on quality.

#### **Monitoring**

We plan and implement reliable monitoring systems for seamless monitoring of all sensitive environmental factors such as temperature or pressure changes and humidity – including immediately traceable reporting.

#### **Access controls**

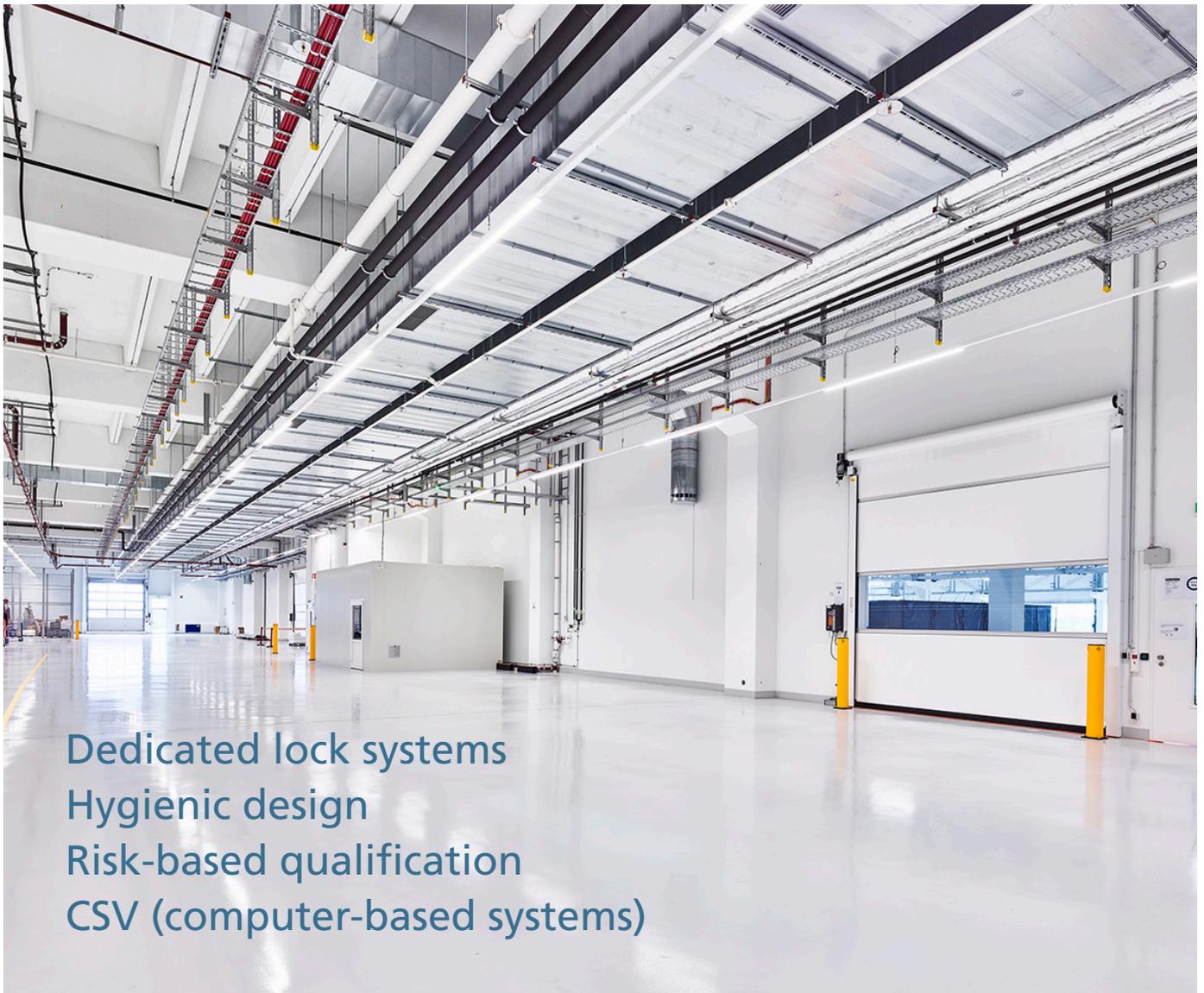
With careful access controls, alarm systems, and video surveillance, we ensure additional transparency and security around the clock.

#### **Pest Control**

By integrating qualified pest control systems, we enable comprehensive, reliable pest monitoring and control – for permanently clean storage conditions.

#### **Automation**

In order to eliminate human error, ensure maximum product quality, and optimize material throughput, we determine the optimal level of automation for each customer and plan the perfect integration of automated intralogistics systems.



Dedicated lock systems  
Hygienic design  
Risk-based qualification  
CSV (computer-based systems)

## CLEANROOM INTEGRATION

### Minimal bacterial count, maximum efficiency

There is hardly any other industry with so many temperature-sensitive products that have the highest standards in terms of particulate and microbiological contamination. The seamless integration of cleanrooms into the supply chain is therefore essential for most pharmaceutical companies.

For sensitive products in small volumes, customized storage systems such as cleanroom-compatible paternoster shelving, lift systems, and carousel storage systems with their stable and automatically controlled temperature ranges are ideal for use directly in the cleanroom.

**The IE Group has many years of experience in the pharmaceutical sector in the planning and implementation of sophisticated, GMP-compliant solutions in all cleanroom classes. IE's highly specialized engineers incorporate intralogistics integration into the early stages of cleanroom and building planning, thus enabling maximum efficiency for all logistics processes.**



*„Hygiene zones and cleanrooms can only be as good as their integration into upstream and downstream processes.“*

*Ricardo Klering,  
Head of Hygiene &  
Cleanroom Munich*



## PRACTICE

### Planning and execution at a (medium-sized) pharmaceutical company

The logistics requirements of a medium-sized pharmaceutical company in southern Germany were implemented optimally. The planning phase consistently followed the “lean laboratory concept” approach without neglecting material/personnel flows with appropriate access controls and air-lock concepts.

A special requirement was the climate-controlled storage facility for testing storage stability with temperature specifications ranging from -20 to 50 degrees Celsius, for which a sample elevator (paternoster) was used for supply and disposal. The requirements of the AWSV (Ordinance on Facilities for Handling Substances Hazardous to Water) are also fully met, as are the requirements for explosion-proof storage rooms.

A monitoring system was installed in the various storage rooms to verify room conditions and ensure product quality. A sample storage facility with mobile racking and a gas extinguishing system was also planned and commissioned.



#### Success factors:

- ✓ Climate chamber for testing storage stability with temperature specifications from -20 to 50 degrees Celsius
- ✓ Explosion-proof storage
- ✓ Compliance with water protection requirements in accordance with AWSV (Ordinance on facilities for handling substances hazardous to water)
- ✓ Reserve sample warehouse with mobile racking and gas extinguishing system
- ✓ Monitoring systems for verifying room conditioning
- ✓ Material and personnel flows with corresponding access control
- ✓ Lock concept
- ✓ Sample elevator
- ✓ Lean Lab concepts



# RANGE OF SERVICES

## Our added value: Industry-specific process and building planning

During your first meeting with the IE Group, you will quickly realize that you are dealing with a partner who not only understands the challenges you face on a daily basis, but also finds the right solutions for your specific situation. Not only are there experts in pharmaceutical logistics at the table, but also specialists in operations and construction planning with extensive industry experience.

This enables us to quickly understand your workflows and logistics processes and implement the solutions we develop with you in terms of construction. The result: industrial buildings that are 100% GMP/GDP-compliant and provide optimal support for your production and logistics processes.



## 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



Our logistics experts have one goal in mind: the optimal interaction of goods and people flows, 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 every step of the way, from planning to building your industrial facility. This way, we can put together a puzzle that guarantees one thing: maximum efficiency during operation.



**AT HOME IN YOUR INDUSTRY**



**ENTREPRENEURIAL THINKING AND ACTION**



**ALL EXPERTS UNDER ONE ROOF**



**SECURITY THROUGH GUARANTEES**

We are the **IE Group**: your specialist for industrial buildings. We plan, design, and construct industrial buildings. Our goal is to maximize the efficiency of your production - with industrial buildings that are perfectly tailored to your manufacturing processes. Of course, we also provide guarantees for costs, deadlines, and quality. **IE Plast, IE Food, IE Life Science, and IE Technology** are part of the **IE Group**, which has been in business since 1966 and offers the necessary financial backup - even for large construction projects.

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