



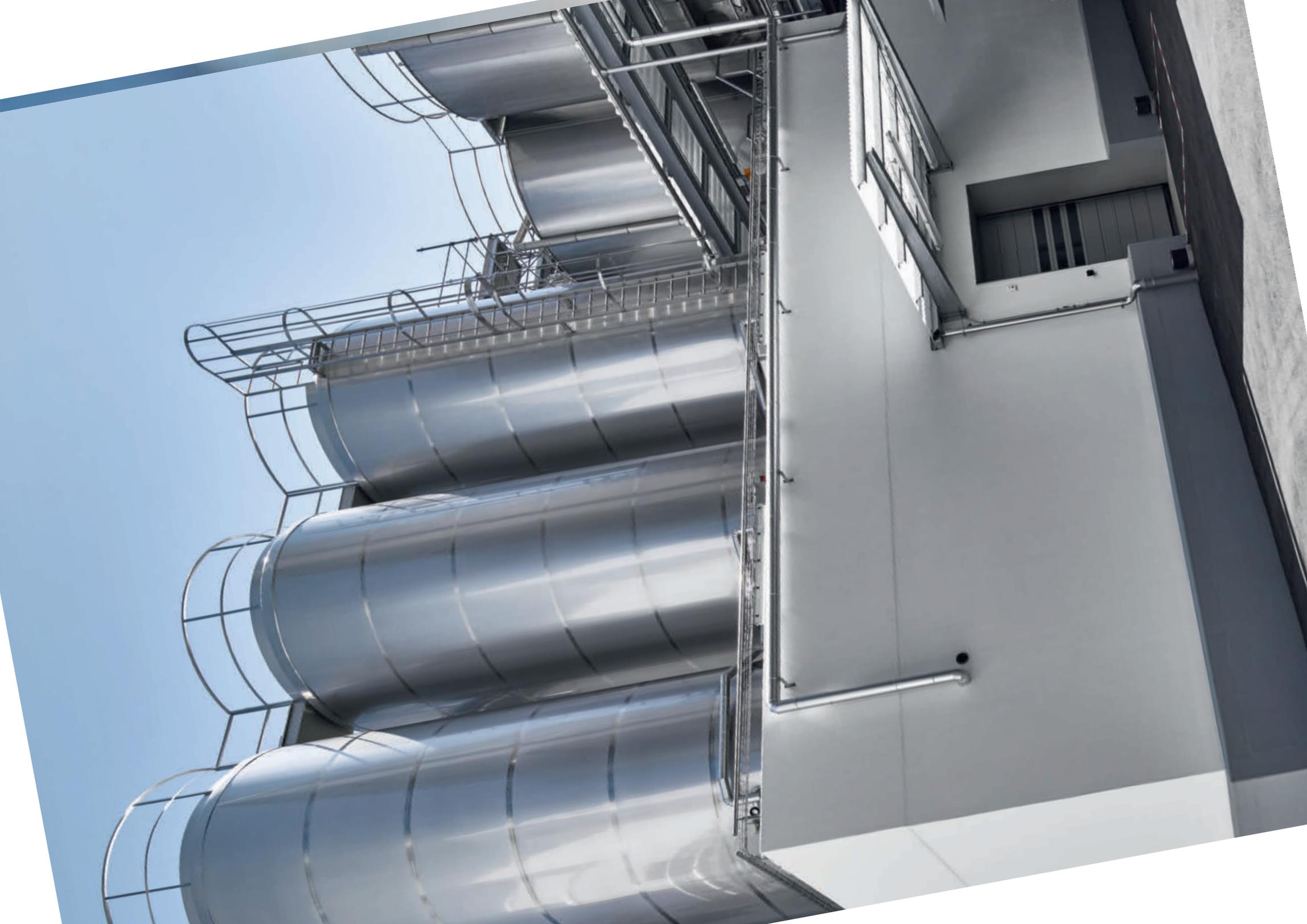
# LIFE SCIENCE

---

We turn industrial buildings into your competitive advantage.  
Using clever solutions specially developed for the life sciences industry.

---

The expert for industrial buildings.





**Unlock efficiency reserves with an industrial building that fits your needs.**

Increasing regulatory requirements that differ from country to country present major challenges to the export-oriented life sciences industry. Additional problems include the growing shortage of money in national health systems and cost pressure due to strong competition from abroad.

More innovation, higher quality and greater efficiency – how can companies in the medical technology sector and other segments of the life sciences industry master these three goals? Our answer is to take a holistic perspective on all processes, hygiene requirements and logistics operations, and to identify the right building.

That is exactly what our business does. We familiarise ourselves with your processes and work with you to develop the functional relationships between different departments, from incoming goods and internal logistics to production, packaging and dispatch. On this basis, we create a space allocation plan and an initial 'block layout'. Only when this framework is in place do we develop the right building: an industrial building that is perfectly tailored to production processes and hygiene standards and that is easy to extend in the future. With a good 50 years of experience, we fully understand the complexity of your investment project, be it a new construction or the expansion of existing premises.

How do we achieve this? At IE Life Science, engineers and architects from the medical and laboratory technology sector work hand in hand with a team of experts in hygiene and logistics, led by a central contact person who is available throughout the entire project. As a result, you receive an operational and construction planning from a single source.

Rely on experts who see the big picture at your company just as clearly as the finer details. With an industrial building from IE Life Science, we guarantee that you will have a decisive competitive advantage for many years to come.

# Clever industrial buildings solutions: competitive advantages engineered by IE

We will give you more than just a shell for your production facility: we enhance the efficiency of your processes – with industrial buildings perfectly matched to your production processes. How do we do this? With a lot of brainwork. We are not satisfied with mere run-of-the-mill solutions. Clear competitive advantages await our clients at the end of the process. Here are a few project examples:



---

Efficient use of space

## Same footprint, 15 per cent more space

---

A building containing analytical laboratories was showing its age. After 30 years, the room layout and functional relationships in the laboratories no longer met the needs of increasingly accurate analytical equipment. At the same time, the rising number of samples, an increasing risk of confusion and various logistical requirements were becoming more difficult to manage in the existing building. Furthermore, space was scarce in the laboratory, which covered 2,000 square metres. IE Life Science was commissioned to create plans in order to optimise the existing building and internal processes.

### Challenge

During an initial inspection of the laboratory, the IE team noticed the small rooms created by the overall plan and the limited space for storing equipment and materials. A large number of products and devices were deposited in many places due to a lack of space. This restricted the movement of goods and people, and the distances covered were not in proportion to the tasks concerned due to the convoluted layout. This scenario complicated the task of modernising the laboratory and creating a suitable environment for the equipment.

### Solution

The design concept by IE was based on opening up the inside. A spacious, open laboratory plan was to replace the cramped layout. This approach meant it was possible

to connect every corridor to the laboratory while increasing the usable space by 15 per cent, even though the footprint remained the same. Inside the laboratory, there is now a higher density of workstations and plenty of room to arrange processes in a logical manner, avoiding long distances between departments. A sophisticated access concept for the laboratory provides security for day-to-day work, ensuring personal safety and analytical precision as well as compliance. This concept includes defined entrance and exit points for staff and controlled areas for critical and potentially hazardous operations. Noisy equipment that could disturb others is housed in a separate workspace away from the technology zone, and the area for customers and visitors is separated from the laboratory.

### Result

Implementation of the plans produced by IE resulted in improved workplace quality and a significant increase in productivity. Additionally, functions that had previously been outsourced could be brought back to the central laboratory by the operator thanks to the space saving of 15 per cent. This significantly reduced ongoing expenses for the services of external laboratories. In summary, a well-conceived conversion instead of a new construction achieved the desired improvement in quality.



General planner



A COMBINATION OF OPERATIONS  
AND CONSTRUCTION EXPERTISE



Efficient use of time

## GMP-compliant conversion at high speed

A manufacturer of pharmaceutical excipients and food additives had been manufacturing for many years in a building that had grown organically and urgently needed to be adapted to comply with legal regulations. The company wanted to convert the premises and optimise processes to ensure more reliable operations. For example, variations in quality were to be prevented and the risk of contamination by foreign particles minimised.

### Challenge

Due to the company's order situation, the planning and conversion of the existing building had to take place within a period of only ten months – under the condition that operations would not be interrupted. This was a major challenge given the complexity of the old building, which had 360 rooms covering 13,000 square metres.

### Solution

IE managed this feat by dovetailing planning and implementation with on-site production. Instead of planning every last detail of the project before commencing building work, IE divided the conversion into several stages,

each of which was carried out in close cooperation with the manufacturing team. IE deployed a complete planning team that was always represented on-site and that covered all the relevant disciplines. In addition to planners for processes, building services and construction, there were two site managers present at all times to ensure adequate security and to coordinate ongoing operation during the conversion. The many surprises presented by the old building did not delay progress because the site team was able to assess the situation immediately and adapt the plans as required.

### Result

Acting as general planner and full-service general contractor, IE succeeded in meeting the very ambitious timing of ten months for planning and implementation. There was also no deviation from the agreed budget or the promised quality standards.



## Conversion during ongoing production: No fear of downtime

Buildings and systems that have grown organically over many years tend to make operations increasingly inefficient. Nevertheless, many companies are put off from modernising their production facilities by an unwelcome prospect: interruptions to operation caused by construction work. As a result, sprawling structures and unnecessarily complex processes cause overheads and running costs to rise compared to competitors.

Despite such fears, almost all conversion and extension work can be carried out during ongoing operations. All it takes is more time for planning and construction. This extra expense represents only a fraction of the revenue loss that would be incurred in the event of an interruption to operations.



In principle, not even hygienically sensitive areas are an obstacle to a conversion during ongoing operations.

---

## Building work like a game of chess

---

**When it comes to converting and extending premises during continued operations, there are many possible safeguards and techniques. Ultimately, though, the most important step is to combine these in the form of a well-conceived master plan. This can be illustrated by a practical example.**

A medical equipment manufacturer was planning to enter the market for combination drugs to be used in medical devices containing an active pharmaceutical ingredient. To this end, a new building was planned that could only be placed immediately adjacent to the existing production facility due to space constraints. This presented the planners with a particular challenge because the production equipment in the older buildings was very sensitive to vibrations.

---

### A construction site with shock absorbers

---

A top priority for the planners at IE Life Science was therefore to minimise the impact on the existing premises. For example, IE used drilled piles instead of vibratory driven piles. Installation of the construction site took place on a platform over the other buildings. Weekly noise and vibration predictions created a clear record of the impact of the building site for the responsible managers in production, and continuous monitoring with vibration alarms was used to check this requirement and protect sensitive equipment. Another challenge was that the new building had to be connected to the clean rooms in the existing production facility for operational reasons. Nevertheless, there were to be no interruptions to operations. The solution presented by IE was to isolate specific zones, where a negative pressure was produced. This prevented the construction site from contaminating production. An elaborate zone concept was required where building work was taking place with temporary walls and film

protection. Additionally, access to the construction site was completely separated from normal operations with measures such as introducing wall breakthroughs for new access routes, installing temporary beams and reorganising the movement of goods and people.

---

### Surgical construction: a minimally invasive procedure

---

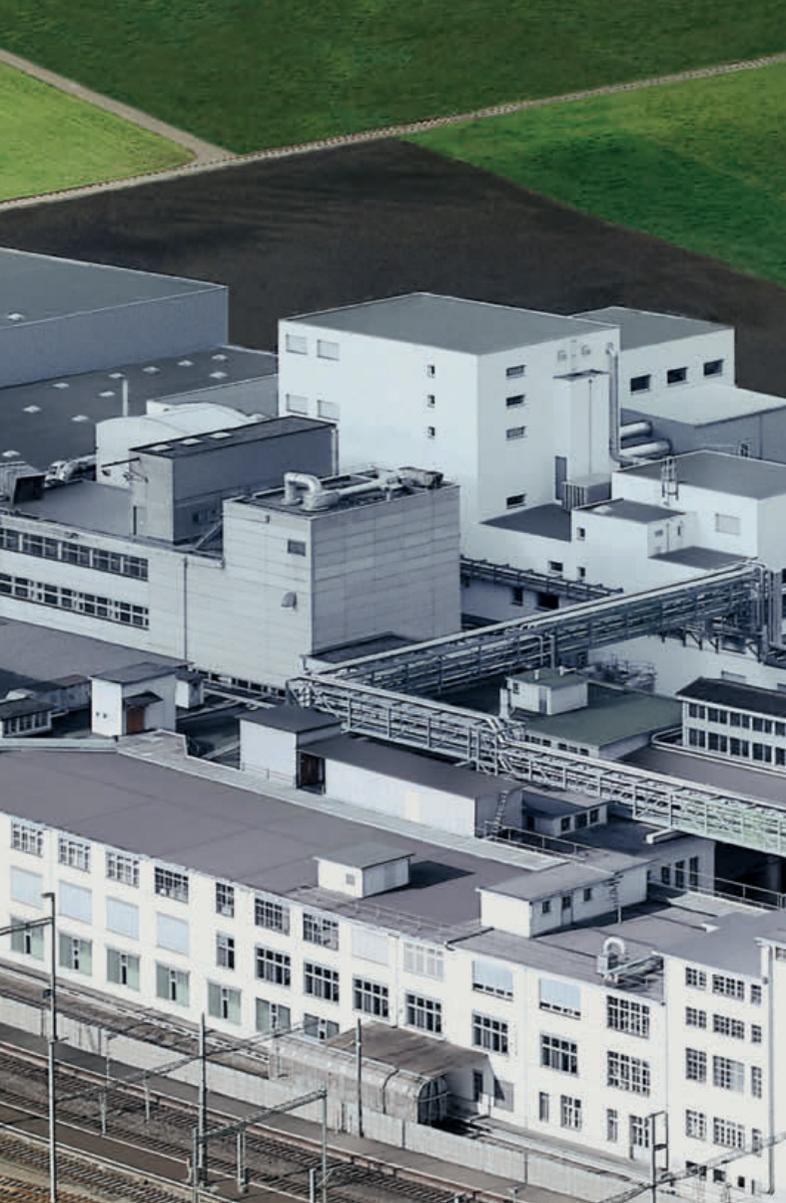
At the same time, there were many other details of planning geared to minimising the impact on production. For example, IE used regular interruptions to business within the company to carry out preparation work for construction. Measures to connect the new building to the rest of the site were planned with minimal work on the existing structures. Furthermore, IE provided training to all employees on the building site, explaining what they should do, especially when working near hygienically sensitive areas.

---

### Uninterrupted production

---

This carefully coordinated approach resulted in a seamless construction and redevelopment project. The 15-month schedule for planning and construction was adhered to. For the customer, however, one thing mattered above all else: production never had to be interrupted due to building work for the entire duration of the project. This translated into a considerable financial benefit: a single day of downtime would mean a loss of revenue of more than CHF 100,000 for the company.



## IE Group - the expert for industrial buildings

### We plan, design and execute industrial building projects.

Our aim is the greatest possible efficiency for your production – with the aid of industrial buildings perfectly matched to your production processes. This is why the building as such is not the focal point at the beginning of a project, but instead factors such as the production process, goods and personnel fluxes, hygiene and clean room requirements, and the expansion potential. You thus get operations and construction planning from a single source, regardless of whether it is a new build or the expansion of an existing system. At the end of the process are sustainable industrial buildings: efficient, low-emission and flexible.

We work in small and powerful teams of industry experts. **IE Food**, **IE Plast**, **IE Life Science** and **IE Technology** are embedded in the IE Group, which has been a market player since 1966 and provides the necessary financial backbone – even for large construction projects.

### EMPLOYEES

› Construction and operations planners, architects, business and mechanical engineers, logistics and building services engineering experts

### ORIGIN

› Founded in 1966 in Switzerland, now at home in Germany and Switzerland

### LOCATIONS

› Offices in Zurich and Munich

### TURNOVER

› CHF 100 million (EUR 95 million)

## What makes us different



### AT HOME IN YOUR INDUSTRY

We specialise in industrial buildings in five different industries. Our extensive experience in these fields mean that we speak exactly your language and understand your production processes. Our industrial buildings are therefore uncompromisingly planned, from the inside out.



### EMPLOYEES AS ENTREPRENEURS

Here at IE Engineering, all employees are stakeholders in the company, meaning you can rely on our teams' motivation and initiative. Experience a new kind of partnership in cooperation.



### ALL EXPERTS UNDER ONE ROOF

Our IE industry-specific engineers, architects, planners and logistics specialists all work for a common cause, allowing us to create industrial buildings that convince from any angle. Production processes, technical building services and architecture are thus optimally coordinated.



### GUARANTEED SECURITY

Our planning and implementation guarantees give you complete security in terms of costs, deadlines, quality and function. From the initial design idea, through the choice of production technology, operational and logistics planning, to general planning and implementation, we execute all project stages – including in work contract format.

## Our range of services

### DEVELOPMENT

- ✓ Objective definition workshops
- ✓ Investment strategies
- ✓ Feasibility studies
- ✓ Site structure plan/ master plan
- ✓ Industry trends

### PRODUCTION TECHNOLOGY

- ✓ Requirements profiles
- ✓ Invitations to tender
- ✓ Technical comparison
- ✓ Draft contracts
- ✓ Specifications
- ✓ Commissioning

### OPERATIONS PLANNING

- ✓ Requirements planning
- ✓ Operational concepts
- ✓ Processing plant planning
- ✓ Hygiene concepts
- ✓ Logistics concepts

### CONSTRUCTION PLANNING

- ✓ New builds
- ✓ Conversions
- ✓ Extensions to production, administration and warehouse buildings

### CONSTRUCTION EXECUTION

- ✓ Construction supervision
- ✓ Construction monitoring
- ✓ Coordination of operations, building services engineering, and construction
- ✓ Guarantees in terms of costs, deadlines, functions and quality
- ✓ Documentation

← **LOGISTICS — HYGIENE AND CLEAN ROOMS — SUSTAINABILITY** →

## We have a clear methodology, you have complete control

We work in clearly delineated project stages. This allows you to examine the results of our collaboration from phase to phase and to make corrections where necessary – from the initial idea through to implementation. At the same time, you enjoy cost stability, which is enhanced from one project stage to the next. You can fully rely on adherence to costs during project implementation. We give you our word on that – and contractual guarantees.

### Trust and transparency characterise the customer-IE relationship

With our transparent procedures and guarantees, we follow one objective above all others: a robust partnership with our customers characterised by mutual trust. This is the most fundamental requirement for close cooperation and determines the success of our projects.

INVESTMENT IDEA



PROJECT DECISION



INVESTMENT DECISION



EXECUTION DECISION

# Our services for companies in the life sciences industry

How are we able to cover all of these aspects and sensibly interlink them all? Because we are at home in the life sciences industry and have already constructed a very large number of industrial building projects. This is why we understand the industry's production processes

just as well as the typical problems of buildings that have developed organically over time. Trust in the experience of our experts: together we create industrial buildings in which all gears intermesh.



## Try us out – and your own ideas!

Already have an idea of your construction project? We will thoroughly assess your idea and examine how well it can be implemented within your budgetary framework. In addition, as part of this feasibility study, we identify possible alternatives and compare the cost-benefit ratios. You get to know our way of working and, at the same time, have all the facts in order to make a project decision.

**You have a lot to gain, without risking anything: greater efficiency, lower costs and better quality.**

Don't miss out on these competitive advantages. Why not arrange an initial meeting, with no obligation?

### Your contacts:

**Stephan Fischer, Managing Director IE Life Science Zurich**  
s.fischer@ie-group.com, T +41 44 389 86

**Matthias Jacobasch, Geschäftsführer IE Life Science Munich**  
m.jacobasch@ie-group.com, T +49 89 82 99 39 32

---

## Contacts

---

**IE Life Science Zurich**

Wiesenstrasse 7  
8008 Zurich | Switzerland  
T +41 44 389 86 00  
[zuerich@ie-group.com](mailto:zuerich@ie-group.com)

**IE Life Science Munich**

Paul-Gerhardt-Allee 48  
81245 Munich | Germany  
T +49 89 82 99 39 0  
[muenchen@ie-group.com](mailto:muenchen@ie-group.com)