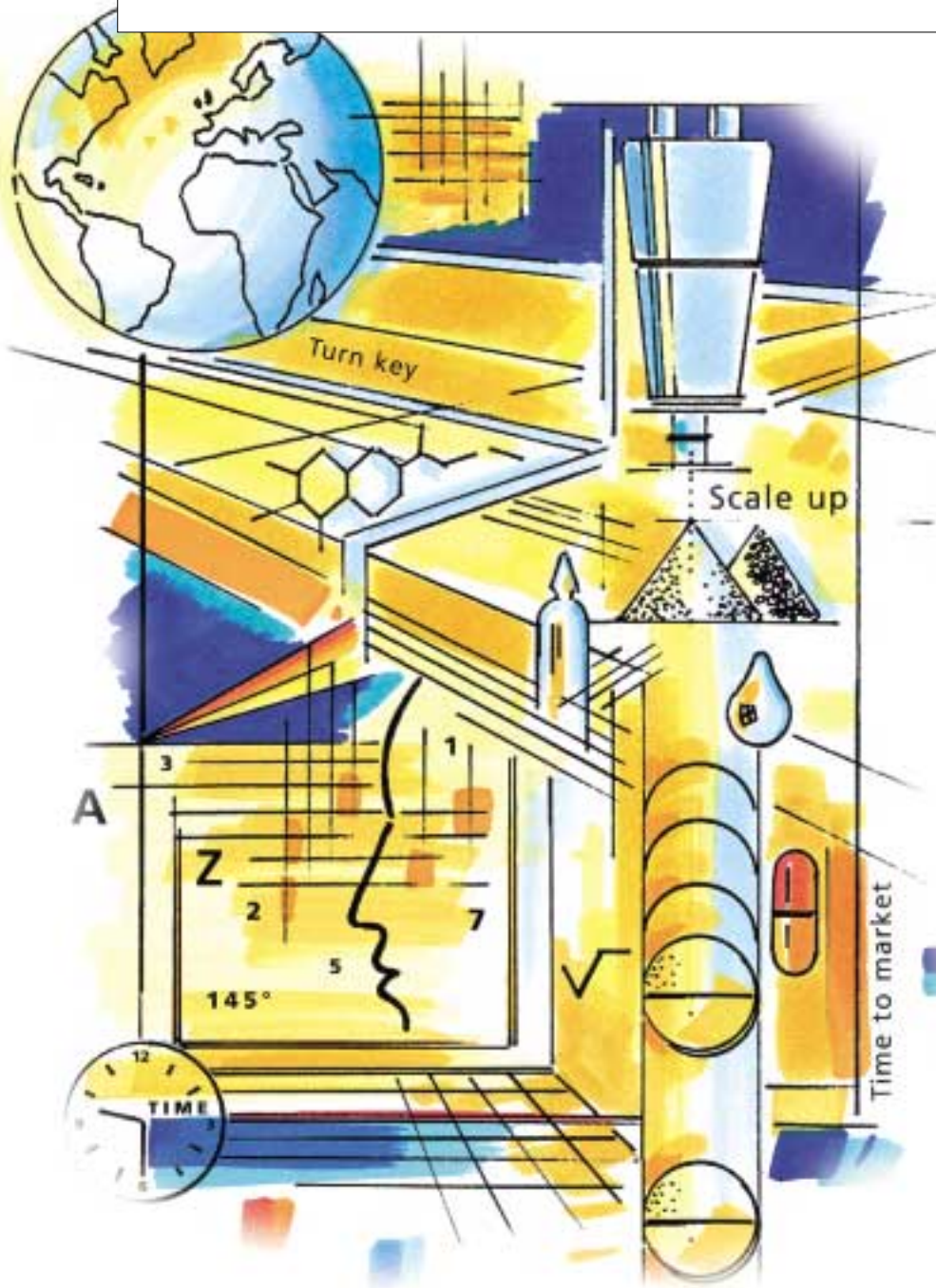


G l a t t - E n g i n e e r i n g



**Comprehensive
Engineering and
Turnkey Service
Consulting,
Planning and
Commissioning
from One Source**

**Concepts and Processes
General Planning
Complete Production Plants**



Expertise and Experience

Glatt.

The single source for everything from machine designs to a competent engineering partner.

40 years of pioneering work and experience in process engineering have made the name Glatt well known throughout the pharmaceutical industry throughout the world.

Many processes would be simply inconceivable without Glatt. Innovation of new products and the continuous, ongoing development of existing products allow Glatt to provide solutions for even our customers' most difficult applications.

The companies in the Glatt Group offer our customers comprehensive service and scope, including the development of pharmaceutical products and intensive consultation regarding site selection and the economic efficiency of production, developing new concepts, process scale up, detailed and general planning, equipment procurement and facility design, machine commissioning, qualification and validation.

Glatt is an organization focussed on the pharmaceutical industry like no other. Glatt brings together experience gained from a variety of projects and tasks and combines it with sophisticated planning resources to master complicated projects and goals. Throughout, customer satisfaction is always the prime concern.

The engineering and projects division offers its extensive and recognized expertise for producing complete, comprehensive solutions. Specialists in the Glatt

Group work together with the multi-disciplinary experts in the engineering division to provide solutions for all our customers' requirements. Whether it be for solid products, liquids or sterile products - the intelligent solutions come from Glatt Engineering.



Expertise and Experience



The express route to success.

'Time to market' is the current mantra of the industry as more and more products have to be implemented even more rapidly. The speed at which products come to the market can be the deciding factor in a company's success. The foundations for this success are laid during the development and planning stages of the production process. Mistakes avoided in the planning stage do not have to be corrected later at increased time and expense.



Consequently it is important that you select the right engineering partner at the earliest stage of the project.

Glatt stands for total expertise in the development and production of pharmaceutical formulations. Glatt Engineering provides you with this store of experience during project development and execution. As a result, Glatt is an engineering company in the unparalleled position of being able to offer state-of-the-art technology as a totally integrated engineering solution. Let us prove this to you for your specific project requirements. Simply call us to start the process.



Glatt Engineering

**More than
engineering:**

**Glatt offers you
total solutions!**

Whatever your expectations may be, we will work together with you to come up with an individualized solution for your requirements - whether for a small speciality area, a complete factory system or the renovation and optimization of an existing system. Our activities are focussed on functionality and efficiency.



**Glatt Engineering is your gateway
to the comprehensive expertise
of the Glatt Group of companies.
Use it for your own benefit!**

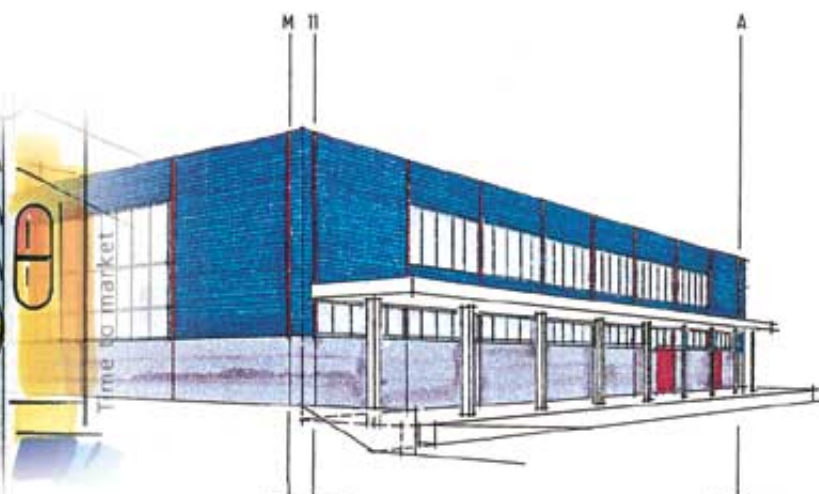


**There are com-
pelling reasons
to choose Glatt
Engineering:**

1. Total solutions.

Our all-encompassing approach is based on the advantages enjoyed by Glatt as a machine-designer and an expert in process engineering, which means Glatt fully understands all the aspects of equipment design and production, down to the last detail from our own experience. Glatt Engineering incorporates a related body of technical knowledge into the project execution. This ensures the work progresses smoothly without stumbling over critical interfaces and without having to integrate any additional third-party resources.

**This specific expertise
guarantees that you benefit
from decisive time and cost
advantages.**



**BCG Vaccine manufacturing facility, Lwów,
Ukraine (turnkey project)**

2. Optimum sizing of equipment due to process expertise and simulation.

Machines that are either too big or too small cost you money. We can determine the most efficient process configuration and the optimum layout thanks to our comprehensive knowledge of the processes and our computerized process simulation techniques using proprietary software specially developed for pharmaceutical processes. We use these methods to check existing processes for possible optimization and savings potentials.

3. Highly qualified experts.

You can't afford to waste any time in the complicated process of obtaining GMP qualification for your machines. Not only does Glatt possess unparalleled expertise in properly configuring processes for qualification, but we also have special software for undertaking projects with a view to qualification.

With these tools, the time-consuming task of working out and preparing the documentation for a project (e.g. IQ and SOPs) can be significantly streamlined.



Process optimization by simulation



4. Efficient project management.

Glatt Engineering guarantees efficient project management with the latest software tools, including optimum change control management. This ensures the project is handled quickly and smoothly.





5. Expertise as a pharmaceutical specialist.

Glatt Engineering is a dynamic, highly specialized company with committed professionals. Our close links and constant exchange of experience with other Glatt divisions means that our engineering team has hands-on experience in the pharmaceutical business. We are at home in all pharmaceutical technologies. Glatt holds patents on WIP, CIP and SIP processes. We also possess extensive production experience from our contract manufacturing facilities in Germany and the USA.



6. Engineering expertise in all related trades.

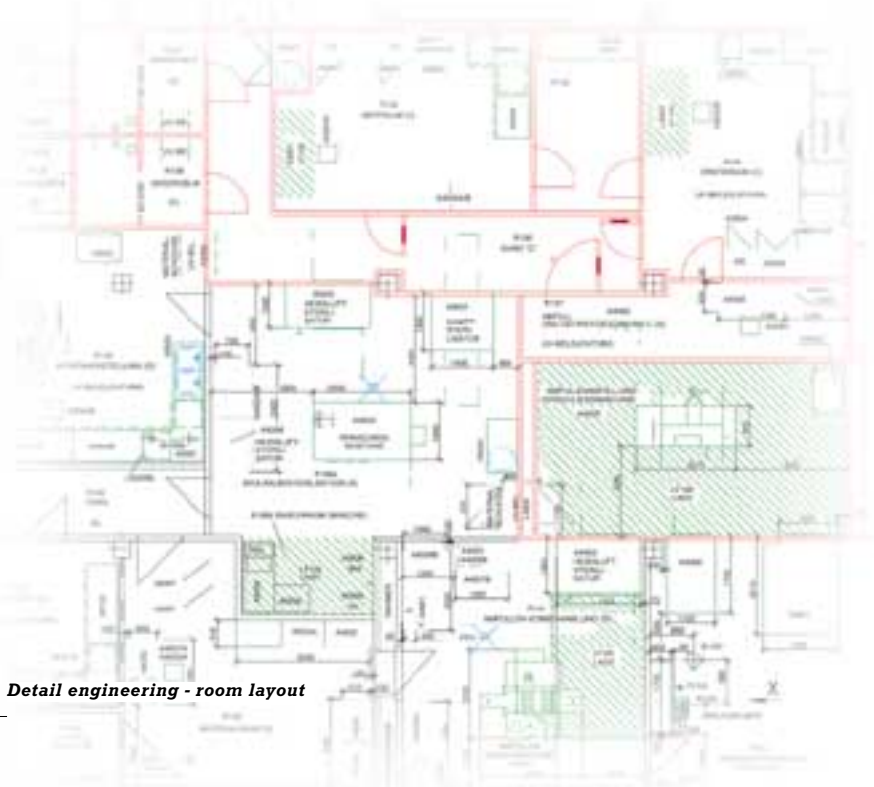
Glatt Engineering has in-house specialists for planning and implementation. We can always offer you tailor-made solutions, whether for process engineering, clean-room systems, HVAC, ancillary equipment, power supply or waste disposal.



WIP/CIP system

7. From the conceptual stage through turnkey completion of a factory.

Glatt Engineering has an experienced team, which you can call in at the inception of the conceptualization stage whether you are first considering a new factory or renovating and optimizing your existing plant. This team maintains permanent links with leading academic institutions, which means it has extensive planning expertise at its fingertips. Whether you are considering a concept study or complete planning - you should call for Glatt Engineering.



Detail engineering - room layout



Glatt Engineering

8. Active in research and development.

Glatt undertakes intensive research and development in the company's own technology centers in Germany and the USA. This means every Glatt Engineering customer can purchase the most innovative and efficient technology - right from the planning stage onwards. You have access to the comprehensive pharmaceutical knowledge which flows into the project work undertaken by each Glatt Engineering team. This makes a critical contribution to the success of your project. Do you want us to implement a cGMP and FDA conform pharmaceutical process including qualification and verification? That's no problem for our experts!



Technology Center, Binzen (Germany)



Laboratory, Weimar (Germany)

9. Global service.

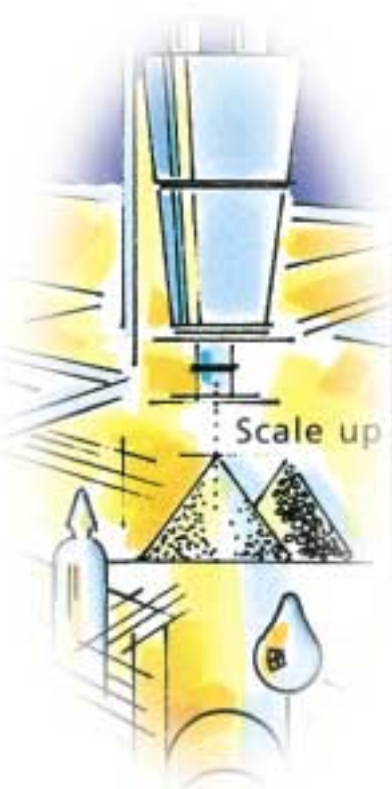
Leading edge technology can only offer economic benefits provided it remains serviceable at all times and functions smoothly. That is why Glatt Engineering has traditionally regarded professional service with a high degree of importance. This customer orientation gives you the assurance of fast commissioning and excellent after-sales service. Worldwide!



Contract manufacturing facility, IPC Dresden (Germany)

10. Absolute discretion and confidentiality.

Something that goes without saying for Glatt. Our engineering experts possess a high level of individual knowledge and practical experience. It is reassuring for you to know that your sensitive data and recipes will be handled in the strictest confidence within a very small group.



Glatt Engineering

**Whatever
you want -
talk to
us first.**

**We specialize
in:**

Consulting

- Feasibility studies
- Site selection studies
- Conceptual studies

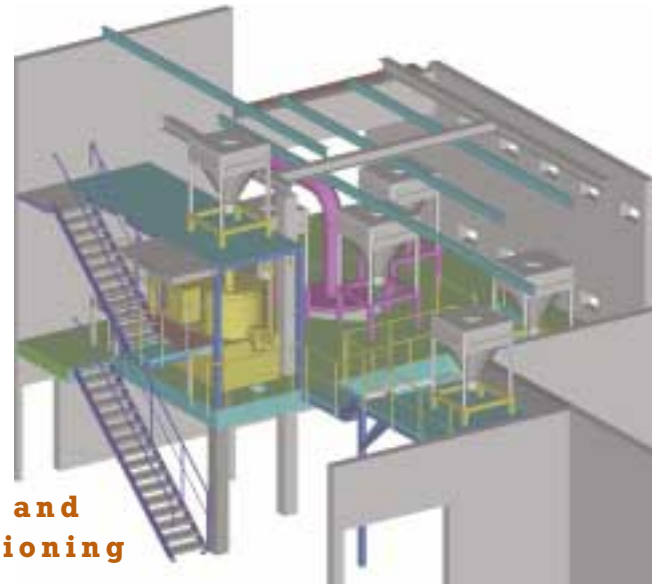
Engineering

- Regulatory engineering/
financial engineering
- Process development
and process engineering
- Material handling and
product flow strategies
- General planning, basic
and detailed engineering
- GMP upgrades and
renovation of existing
production facilities

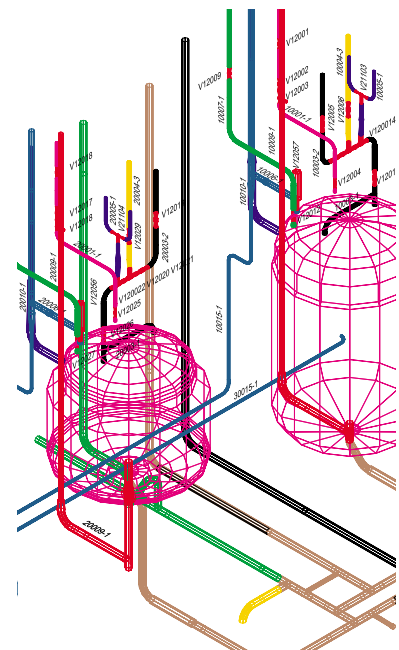


Projects and commissioning

- Turnkey projects
- Planning and construction
of production facilities:
for new constructions
and conversions -
with process machinery,
ancillary equipment
and utilities
- Qualification
- Validation support
- Training
- After-sales service



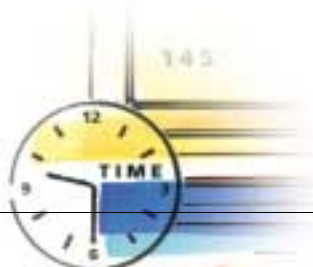
**Detail engineering/commissioning -
feeding system production plant**



**Pharmaceutical solid production,
IPC Dresden (Germany)**

**This comprehensive range of
services makes Glatt Engineering
your high-performance engi-
neering partner for all projects
from the earliest planning stages
right through to commissioning -
and beyond.**

Give us a call!



**Glatt Engineering
is expertise.**

**Glatt Ingenieur-
technik GmbH:**

Consulting, design and realization
of plants for the manufacturing of
solid, semi-solid, liquid and
sterile drugs,
plants for bulk pharmaceutical
chemicals and biotec,
turnkey projects and project
management.



Consulting

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Glatt Ingenieurtechnik Weimar

UniTec GmbH:

Design and realization of units for
the preparation of liquids for oral,
topic, sterile and aseptic products,
supply of complete modules for CIP,
SIP, WFI and other pure media.



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Unitec

Pharmatronic AG:

Automation, EDP concepts,
validation and calibration,
process technology and
plant design.



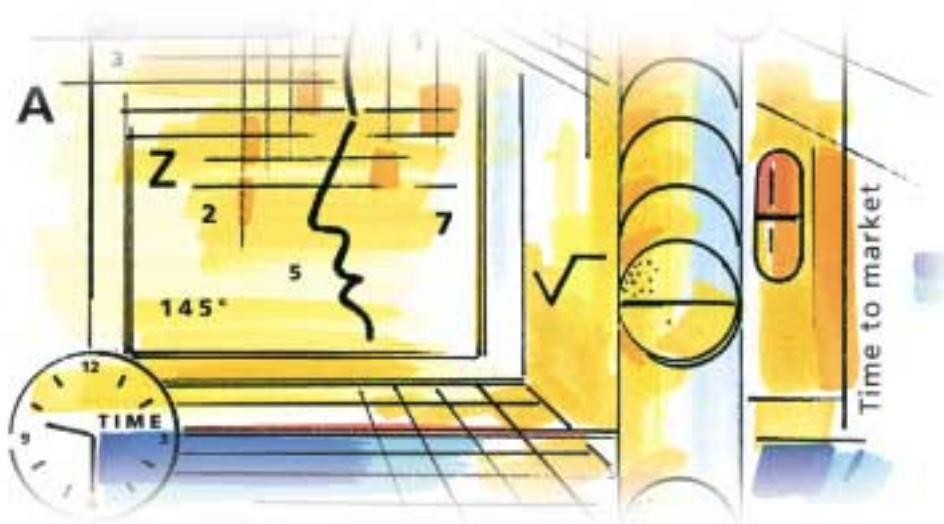
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Pharmatronic

**A more than
successful
recipe for the
world's leading
pharmaceutical
manufacturers.**

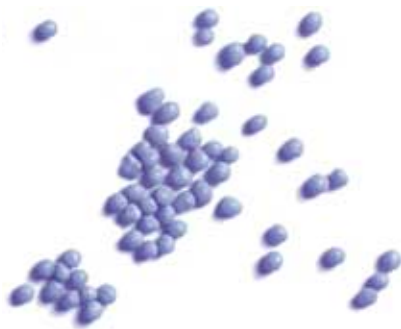
A lot of well known pharmaceutical manufacturers are Glatt's customers.



Use our concept for your
company:

**Integrated
engineering
made by Glatt
Engineering**

Take us at our word!



**Expertise
and Experience**

Global resources.

The Glatt Group has companies in more than 20 countries. Furthermore, Glatt authorized agencies with highly qualified personnel are at your disposal all over the world. We are there for you wherever and whenever you need us.

Glatt maintains numerous excellent links to international research institutes and the research industry worldwide.

Glatt uses these close international connections to pick up on development trends in pharmaceuticals, life sciences and the food industry at an early stage, so it can play an active role in shaping them. The result is reflected in the high standards of development and quality in Glatt products. Of course, these high standards also apply to the engineering and planning services offered by Glatt.

Global competition is getting fiercer. Against this background, global experience and expertise in technology and planning are decisive factors in favor of Glatt as an engineering partner.



**Expertise
and Experience**

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**First ports of call
for first-class
services.**



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**Expertise
and Experience**