

"We Support Product Development from the Very Beginning"

Glatt Ingenieurtechnik in Weimar, Germany, is a global plant manufacturer with its own fluidized bed technology. As sales director, Volker Budzinski is responsible for international project development at Glatt Process Technology Food, Feed & Fine Chemicals. In this interview, he answers questions about the company's internal workflow.

Mr Budzinski, in the pharmaceutical industry, fluidized bed pioneer Glatt is well known for its plant engineering. What are the current priorities for Glatt Ingenieurtechnik?

At Glatt Ingenieurtechnik, we specialize in products and granulation facilities that are used in food and beverage production, as well as in the fields of animal nutrition, chemistry, fine chemistry and biotechnology. We combine in-depth technology expertise with professional engineering know-how to deliver turnkey production solutions, even for greenfield projects.

This concept is currently unique in the market. What issues do your customers present you with?

In principle, our workflow starts in product development, with ideas to improve existing products. Fluidized

bed technology is suitable for many challenging issues, whether it's taste, appearance, smell, texture or tabletting related. To cite an example, flavors or vitamins must be protected for further processing, such as during transportation – not only from the point of sale to the customer's home but on their journey through the gastrointestinal tract as well.

What are the differences between fluidized bed technology and other drying methods?

We get involved at the particle design stage, when small components need to be produced with better margins, such as the optimizing the film thickness of a coating, defining the solubility of an instant product or finding the ideal particle size for dust-free dosing. The key difference is that several fluidized bed-based processes – spray



Volker Budzinski is Sales Director Process Technology Food, Feed & Fine Chemicals at Glatt Ingenieurtechnik in Weimar, Germany.

granulation, spray agglomeration, spray coating and spray encapsulation – can all be performed more efficiently compared with alternative methods and, furthermore, they can be combined with drying in a single step.

How does the support of product and process development look from the ground?

For reliable production updates, we offer one-week laboratory tests in our technology center in Weimar. Here, our experts work together in teams with the customer's product developers: on the first day, the ProCell LabSystem laboratory plant is prepared; from the second to the fourth day, we conduct tests and laboratory evaluations; and, on the last day, we discuss the results and provide samples of the new product.

Trial series with ProCell LabSystem: Using the laboratory unit, spouted bed and fluidized bed processes can be tested in kg scale.



Pilot plant for continuous fluidized bed and spouted bed processes at Glatt's technology center in Weimar, Germany.



So, do product developers from around the world travel for tests to Weimar?

Customers worldwide both value our extensive facilities here in Weimar and often want to return. This is not always easy and depends on whether a raw material is allowed to be imported into the EU. If an ingredient producer has the necessary expertise, they could loan or buy a ProCell LabSystem. However, our customers keep coming back to Weimar to change, develop or improve their products, particularly because of the personal attention. With project lead times of 1-2 years, repeated trials are not uncommon. An intermediate pilot-plant step might sometimes be necessary, such as for large capacity scale-up projects or when significant quantities of product samples are needed for market tests.

As you say, tests are performed open-ended – meaning they do not automatically lead to an investment contract. If so, what is the workflow?
The next step is the conceptual design that provides an overview of the general conditions, investment costs,

operating and ancillary costs, as well as a budgetary estimation. Parallel meetings are held at the new production location and, after basic engineering, we submit a firm quotation. When accepted, we then provide detailed engineering, including all specifications and execution planning. We qualify suppliers, consider offers, place orders, take care of the transportation and supervise the construction and commissioning.

In which currency are contracts concluded?

We work in all the major currencies, mainly Euros and US dollars. Linked to this is a payment plan and a time schedule. Thanks to our experience in international projects, we know how to secure transactions and many other things.

How long does the production of a fluidized bed apparatus take?

It takes 5-8 months on average, although each granulator is unique. We use trusted subcontractors, with whom we've worked for many years. For us, manufacturing is extremely important,

so we do quality checks on a regular basis.

What are the milestones in plant construction?

Before a plant is handed over, everything is thoroughly tested. After the Factory Acceptance Test, the customer becomes responsible for installation. We provide supervision, monitor the assembly, verify the positioning and carry out interim inspections. We do a Site Acceptance Test on delivery and help with the start-up phase. In the case of warranty parameters, we demonstrate these parameters on-site using the customer's apparatus in a performance test.

How do you ensure compliance with country specific provisions?

Thanks to our broad presence, we can conduct any appropriate reviews with our own experts. This applies to our American colleagues, who deal with FDA regulations and GMPs, as well as for our Indian team of more than 400 employees, who are well versed with Asian regulations.



TECHNOLOGY. EQUIPMENT. ENGINEERING.

Glatt Process Technology Food, Feed & Fine Chemicals accompanies you from your original product idea to turn-key production.

Would you like to have dust-free, easy-to-dose granules with defined parameters for bulk density, structure and grain size distribution? Get your products ready for tomorrow's market and improve their storage stability, hygroscopicity, solubility, look, taste, smell ... We combine professional engineering with in-depth technology expertise. Worldwide!

- » Product competence
- » Process competence
- » Technology competence
- » Plant engineering competence

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Glatt. Integrated Process Solutions.



Photos: Glatt



Contribution of a continuous granulator ProCell system 500 used for fluidized bed and spouted bed processes.

In Europe, we take care of issues such as EHEDG, risk analyses and explosion protection, among other things. Moreover, we've significantly expanded our capacities in classic white biotechnology at our location in Dresden. For our customers, Glatt's high standards are key, meaning that the core of our process technology is of German origin.

Initially you mentioned the turnkey factory building...

We supply everything that the process requires, such as solutions for material handling, sanitizing, main pipelines and electricity. We also engineer processes for fermentation, liquid preparations and packing stations. Should a particular building be a problem, we can create engineering designs and supervise construction, anywhere in the world. We have a free hand to choose the appropriate equipment and have already realized turnkey biotech production facilities that are fully equipped with licensed technology.

By the way: material handling, what role do sustainability issues play from a customer perspective?

The resource-efficient use of energy and raw materials is part of our plant concept. Energy recovery systems are easy to implement and bring significant savings. This is widely accepted in Europe, but less so in countries where energy can be used for practically nothing.

And finally, how would you summarize Glatt's secret of success?

A key point is that we accompany our customers from the very beginning to the end of each project. We meet their needs, starting with the initial idea to develop the product and process together. It's an approach that's unique to Glatt. We have the experts, the technological know-how and the infrastructure – that's the benefit of collaborating with Glatt Ingenieurtechnik.

Thank you for the interview, Mr. Budzinski.

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New Equipment on Show

HiE is one of the foremost European exhibitions in the food, beverage and ingredients events calendar! This year Armfield Ltd launched two R&D focused products, FT18-MkII Modular Cross Flow Filtration and FT85 Aseptic Vessel. The FT18-MkII supersedes the FT18 and provides compatibility with ceramic, spiral wound, hollow fibre and tubular membranes.

The Armfield FT18 MKII is a small pilot scale cross flow filtration system designed to operate with a range of membrane module configurations. It can operate with as little as 5-10 liters of material, but still give data that is useful for process scale-up. It can be used over the full range of cross-flow filtration applications from micro-filtration through to reverse osmosis. It is the perfect tool to use, following on from flat sheet membrane trials with the FT17, for further process development and scale-up.

The FT85 Aseptic Vessel can form part of an aseptic line where larger quantities of sterile product are involved. The vessel is controlled via the unit's touchscreen and Armfield's own software system and intuitive interface, and can be used

in-line with any of Armfield's HTST/UHT systems, in order to store sterile product prior to forward operation. The FT85 is also wheel mounted, so can be easily moved around the lab if required.

Key No. 89320

