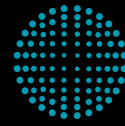


WHAT'S NEXT?



**FETTE
COMPACTING**

A member of
Excellence United

FETTE COMPACTING MAGAZINE 2021/1

THE NEXT GENERATION

F30i double rotary press

GLOBAL DEMAND

Nutrition market

DIRECT LINK

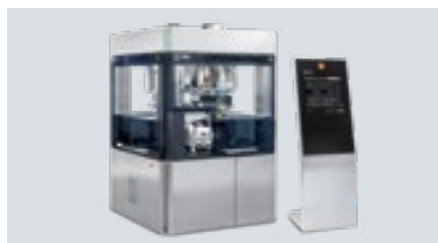
OSDi: LiveGuide

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DEAR READERS

For ten years now, our customer and trade fair magazine has been exploring the future of pharmaceutical and nutrition production. We are very pleased with the positive feedback we have received time and again since the first issue in 2011. What's Next? gets to the heart of what we will continue to do over the next ten years: prepare today for the challenges of tomorrow.

The anniversary edition is being published in a phase which is putting undue demands on all of us. Although the third wave of the Covid-19 pandemic has been severed in many countries around the world, a pervasive unease remains. All the more important, therefore, to be able to rely on close cooperation. This togetherness is what Joachim Dittrich regards as a central concern. He has been CEO of Fette Compacting since the beginning of 2021. Find out in the interview where he comes from and what his priorities are.

In this edition we present the F30i, the second tablet press in the new i Series. The double rotary press is designed for large batches and produces up to 1.6 million tablets per hour. Here you can also find out which digital services can facilitate the new normality in production. You can look forward to these and other highlights in the current issue.

We wish you an inspiring read:
Your team from Fette Compacting



TECHNOLOGY stands for everything we offer in production technology – from tablet presses and capsule filling machines through process equipment to tableting tools and format parts.

SERVICE covers all the services related to machines, process equipment and installations such as spare parts supply, plant modernization and technical field service department.

COMPETENCE is the overarching idea behind all our process-related services. This includes training, product trials, application and Performance Consulting as well as engineering.

Imprint

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“THE WORLD HAS MOVED CLOSER TOGETHER”

Back to the roots, with an eye to the future: Joachim Dittrich has been Chief Executive Officer (CEO) of Fette Compacting and a member of LMT Group executive management since January 2021. In this interview, he reveals what links him to the company and the region and what plans he has for the future.

Mr. Dittrich, what did you think when you received the offer to assume management of Fette Compacting?

I was delighted! Three things were decisive for my accepting the offer: Fette Compacting is a top company with an excellent reputation. We operate in an interesting and challenging industry with discerning customers who rely on long-term relationships. We have dedicated employees with plenty of experience. And all of that not far from my roots as I grew up only 20 kilometers away from Schwarzenbek.

You are taking charge in a challenging environment. How has the order situation developed at Fette Compacting during the coronavirus pandemic?

Compared to other sectors, our order situation is very good despite the pandemic and we even achieved our growth goals for 2020. This is a good basis. The number of orders received to date gives us reason to be optimistic. But it is difficult to guess how the situation will develop over the long term. The past few months have shown that the pandemic is constantly presenting us with new challenges, particularly within a global context.

What experiences will stay with you after working under these conditions?

The pandemic has shown us once again the importance of regular contact with our customers and among ourselves. One positive thing is that with the aid of digital tools, we have adapted very swiftly and become more flexible. The world has moved closer together. And this is just as applicable to collaboration with our customers as it is for us in-house.

What do you hope to focus on?

We want to be the world's leading provider of solutions for OSD production. That means we need to gain even better proximity to the markets and our customers all over the world. That is why customer orientation and internationalization are two strategic focal areas. And I will also be continuing to push the topics of sustainability and digitalization of our processes.

Why are these two topics so important?

Our essential motivation is to ensure that people receive safe medication and nutritional supplements. This is an inspiring task which makes the world a healthier and better place. This task drives our own desire to be a positive force in the world, regardless of what we do. More and more of our customers also share this view and are acting accordingly. That is why the topic of sustainability is a cornerstone of our activities.

I regard digitalization as being two-dimensional. It is a very effective tool for positioning ourselves even more efficiently in-house. This entails planning and steering our processes in such a way that they intermesh perfectly. But I envisage the greatest potential for our customers. By merging our knowledge and our machine data, our customers' production facilities will become significantly more efficient. And we can use digital services to considerably improve customer satisfaction and therefore customer loyalty.

What can customers expect from Fette Compacting in the future?

We remain an innovative and reliable partner to our customers and take responsibility in three essential aspects: We feel responsible for the safety of the operators in production. We feel responsible for the safety of the patients who depend on the drugs produced with our machines. And we feel responsible for the economic safety of the companies we work for. This is how we understand the task to support them in shaping the future of OSD production.

Against this background, one of our most important projects in the years to come is the launch of our entirely revamped i Series. With it, we want to continue the history of the most successful series of tablet presses ever. We are also driving forward the topics of containment and continuous manufacturing. At the same time, we are expanding our digital offering and strengthening our service.

One of the most relevant topics for society and thus also for our industry is sustainability. We see it as one of our central tasks to support the sustainability efforts of our customers and also to align our own actions accordingly. This means, among other things, that we will further reduce the energy consumption of our machines, extend the life cycle of the machines, and use digital tools and solutions to further minimize our ecological footprint.



THE NEXT GENERATION



The new F30i double rotary press is already dust-tight in the standard version.

Dust-tight, connectible, system-compatible, and optimized for two-layer tablets: the F30i double rotary press is the next step on the way to the future of tablet production.

For many years, Fette Compacting has been supplying the pharmaceutical industry with tablet presses from its classic i Series. These are deployed by manufacturers all over the world and are regarded as guarantees for efficient and flexible production processes. Fette Compacting has always collaborated closely with its customers to offer suitable innovations for future requirements in tablet production. The latest result of this permanent requirement analysis was the launch of the new i Series which entails a full overhaul of the classic series and alignment toward the specifications of state-of-the-art production environments.

The new i Series made its first appearance in the form of the F10i, a flexible and efficient single rotary press for smaller batches. March 2021 saw the new generation being supplemented by the F30i to include a double rotary press. The new machine is designed for the production of large batches and enables an output of up to 1.6 million tablets per hour, which makes it particularly attractive for the production of traditional blockbuster medication. We present the most important features of the F30i in detail here.

Focus on two-layer tablets

The F30i is optimized for the production of two-layer tablets. This should come as no surprise as the double rotary presses offered by Fette Compacting have long been handling this complex task at the very highest level. The engineers have further perfected this feature for the F30i.

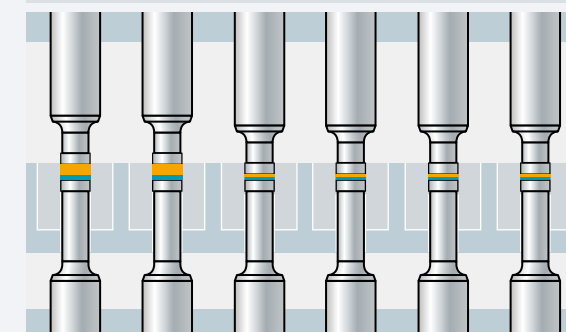
The F30i offers fast sampling of the first layer via which the tablet weight can be precisely monitored and regulated. This mechanism works with electro-pneumatic pressure roller adjustment and sampling of the first layer ensures that sufficiently hard tablets are swiftly produced. At the same time, this reduces product loss to a minimum.

Two-layer tablets are becoming increasingly important as they enable the combination of two or more pharmaceutical substances in a single dosage form. Physical segregation of the formulations makes it possible to avoid incompatibilities and the active agents can be united with different release patterns in a single product.



The SmartInterface offered by Fette Compacting provides access to real-time production data at all times and from all locations.

<https://youtu.be/dNLnNgZXMmw>



The F30i is optimized for the efficient production of two-layer tablets.

Dust-tight as standard

Operator protection plays a key role in the F30i. Like the F10i, it is already consistently dust-tight in the standard variant – from the press room through to the connections between the machine and process equipment. Permanent underpressure in the interior prevents any dust from being released from the machine. For active or highly-active substances, the F30i is also available with a corresponding containment package which uses special sensors to monitor the safety of the system as a whole.

Additional user safety is ensured by a fully-automated tableting process, whereby containment need never be interrupted between filling the machine and removing the tablets. Operators can access the machine interior via glove ports in the window flaps which are monitored by the machine's safety controls. A rapid transfer port (RTP) permits the introduction and removal of material, tools, and punches.

To protect against exposure when cleaning the machine, the surfaces of the respective shrouding parts to be cleaned have been reduced by 71 percent. Dust-tight connections between the interior and process equipment, coupled with intelligently-installed cables and lines, facilitate easy cleaning.



The double rotary press is dust-tight as standard and also available with a containment package.

Fully compatible

Like the F10i before it, the F30i is also system-compatible across generations. All process-based assemblies are identical to those of the classic i Series. The new i Series can use die and segment turrets from the tablet presses of the previous generation.

The qualification and validation of a new machine often involves several months. Depending on the complexity of the system, this project step alone can account for up to 25 percent of the investment costs. However, practical experience with the F10i has confirmed that the downward compatibility of the new i Series can reduce the effort involved in validation and qualification to only a few days.

The F30i is also compatible in terms of digitalization. After all, Fette Compacting equips its new machines with the technical prerequisites for state-of-the-art production environments. For example, the process equipment can be easily integrated using the plug-and-play principle. The open interfaces of the machine comply with the usual automation standards, enabling the F30i to be both integrated in a Manufacturing Execution System (MES) and connected to the Internet of Things (IoT).



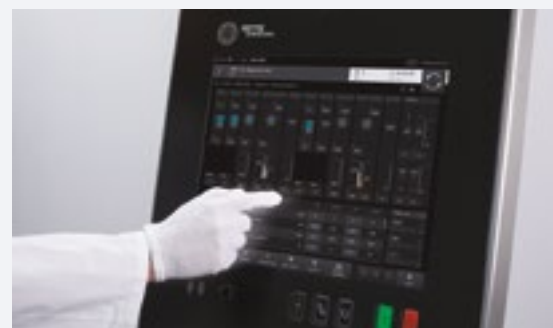
The process equipment can be easily integrated in the F30i via plug-and-play.

User-friendliness is trumps

The easier a tablet press is to operate, the more efficiently production runs. That is why the designers of the F30i attached maximum importance to user-friendliness. New software solutions ensure that operating errors can be avoided by even less experienced operators, whereby support is provided in the form of a Human Machine Interface (HMI), which permits intuitive control, monitoring, and documentation of the machine and process equipment.

Vibrations and audible sounds provide tactile feedback on contact with the multi-touch display, ensuring that the operator enjoys additional safety during entries. The HMI terminal is not dependent on the position of the tablet press but can be flexibly positioned in the room as required. This freedom increases user-friendliness and facilitates ergonomic working methods.

Furthermore, the operators can avail of a so-called Workflow Operation Wizard which guides them step-by-step through standard procedures using easily-comprehensible instructions. The wizard can also be used to save work steps, define process sequences, and open check lists. Additional software support is offered by the SmartInterface app which enables production processes to be monitored in real time via mobile end devices.



Thanks to the intelligent HMI, even less experienced operators can avoid operating errors.



The F30i supplements the new i Series as a high-performance double rotary press.

DIRECT LINK



LiveGuide

Shortcut to Expert Support

Fast aid from the experts: this is what LiveGuide stands for. This app enables tablet and capsule manufacturers to rely on precise and safe troubleshooting. And the tool has proved itself on countless occasions during the pandemic in particular.

Not every user knows how to react to all problems. Colleagues are not always available and the machine documentation is not always to hand as it must be stored outside the production area. What if there was immediate remote help available in such cases?

Fette Compacting asked itself this and many other questions while developing the LiveGuide troubleshooting app. The result is an iterative digital tool in the OSDi division, as explained by Senior Innovation Architect Nina Mang: "We developed LiveGuide in several individual steps, always in close cooperation with our customers. Even after the launch, we will continue to extend its functions to ensure that they are always in line with user requirements."

Hotline for manufacturers of solid formulations

The result is an expert tool which is tailored specially to manufacturers of solid formulations. The app makes it possible to swiftly detect disruptions in a live chat with the technical team at Fette Compacting and to remedy them in a reliable manner. Via a secure connection, documents can be exchanged and video conferences held. To ensure that the experts' instructions can be implemented directly at the machine, the app is optimized for mobile end devices such as smartphones, tablets, and smart glasses. An extra connection to the production network is not necessary. LiveGuide stores all solution instructions in a customer archive, enabling users to access them at will.

AR function and integrated translation

Features also include an augmented reality function (AR), which increases the precision of troubleshooting using visual show tools. In-app translation using the intelligent DeepL language tool also helps to overcome language barriers between experts and operators.

LiveGuide is available in three license models: One free guest license permits troubleshooting with an expert from Fette Compacting for the duration of a case. The standard license also provides the opportunity to independently create cases and invite colleagues. The premium license makes it possible to add any third parties as guests. The app is available around the clock in the standard and premium license. The experts at Fette Compacting are available during local service hours.

Tried-and-tested digital aid

"Particularly during the pandemic, our virtual tool has proved itself immensely," is how Mang looks back on some insightful months. "Corona showed how fast manufacturers need to react to changed production conditions today. As a direct link to the experts, LiveGuide is a conceivably simple way – and it will stay with us even after the pandemic."



»CORONA SHOWED US HOW FAST MANUFACTURERS NEED TO REACT TO CHANGED PRODUCTION CONDITIONS TODAY«

Nina Mang, Senior Innovation Architect at Fette Compacting



Go to the brand-new LiveGuide video:
<https://youtu.be/pkHtRjXtHa0>



The hidden valve

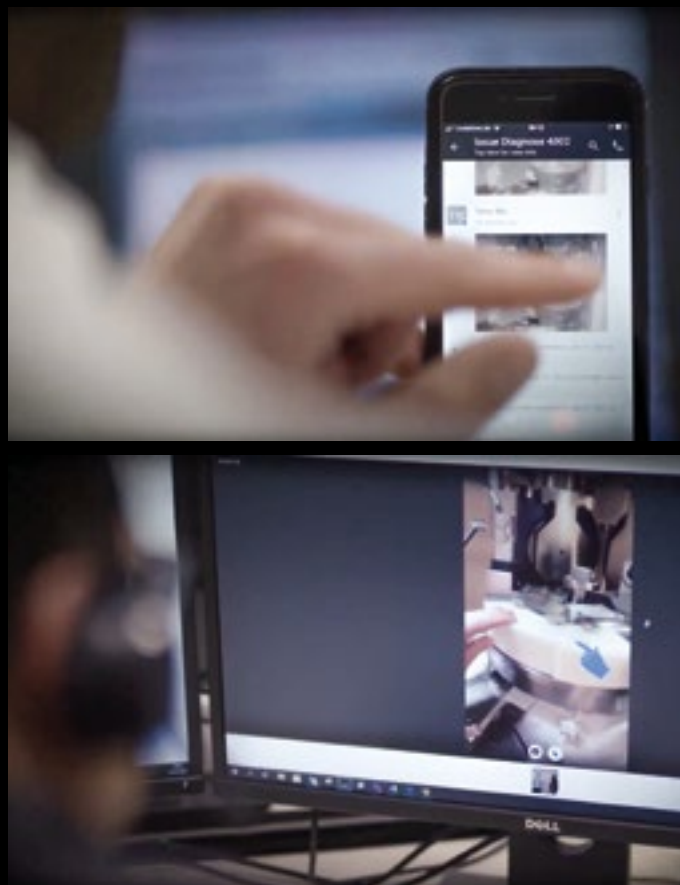
Pharmaceutical manufacturer GlaxoSmithKline (GSK, Poland) was one of the first customers to test LiveGuide. The reason for this was an unplanned machine downtime. An employee from the Maintenance Team at GSK Poland reports on the case:

“Initially, I didn’t think it would work so well. But once we had solved the first case in LiveGuide, I wanted all manufacturers to offer such an app. I spoke to a field service employee on the phone and he gave me all of the information I needed. All I had to do was outline my problem and tell him the machine serial number. While we were discussing the case, several experts at Fette Compacting helped to find a solution. This cooperation enabled us to swiftly trace the problem back to a hidden solenoid valve. Not only suggestions for the solution were exchanged – the electric wiring diagrams and other useful documents were also uploaded to the chat. As a result, I think Fette Compacting is offering a very helpful tool in the form of LiveGuide.”

Would you like to gain an impression of LiveGuide?

Fette Compacting would be delighted to present the tool to you. More information and contacts can be found here:

www.liveguide.osdi-solutions.com



Within the framework of the AR function, a “finger pointer” helps to precisely detect errors and indicate important components.

OSDi

Smart tools for the production of solid formulations

OSDi is an abbreviation combining the production of oral solid dosages with digitalization. The team in this Fette Compacting division uses the agile methods of Design Thinking and Lean Start-up which consistently focus on user requirements. This way, eight applications for tablet and capsule production are ready for the market or in the process of being developed. You can find more info here: www.osdi-solutions.com



alva

makes learning content available from trainers.



LiveGuide

offers live chats and video conferences for the purpose of jointly remedying errors.



VRCampus

trains important process steps using virtual reality.



SmartInterface

allows access at all times to real-time production data in the customer’s network.



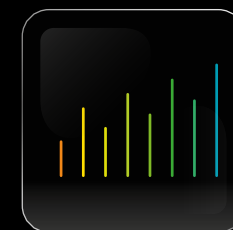
AssetManager

offers a quick overview of the machines at all sites.



PredictiveMaintenance

Opens up on an extensive database efficient ways of planning maintenance, cleaning and inspection of machines in the field.



ConditionMonitor

allows access at all times and from any location to production data in real time and offers analysis functions in the OSDi cloud.



PerformanceManager

Maximizes the production output through detailed analyses, thereby extending the Condition-Monitor.

COORDINATED OPERATOR PROTECTION

Two high-containment plants have been commissioned at the Mexican pharmaceuticals manufacturer, PiSA Farmacéutica. Specialists in solid formulations at Fette Compacting supplied two tablet presses for highly-active substances and are still acting as a central contact partner.

PiSA Farmacéutica has every reason to celebrate: in September 2020, the Mexican pharmaceuticals company commissioned two high-containment plants for the production of highly-active medication in its factory in Tlajomulco, following a successful Site Acceptance Test (SAT). Both plants were realized by Fette Compacting and its partners from the Excellence United alliance over the course of the past two years.

The heart piece of the new plants is represented by two i Series tablet presses from Fette Compacting. Highly-active immunosuppressive drugs are produced on the 1090i WiP single-rotary press while the 3090i WiP double-rotary press is used for the production of cancer medication.

Both machines feature highly-efficient containment technology, with level 5 of the Containment Guard developed by Fette Compacting ensuring maximum operator protection. In order to process highly-toxic substances efficiently, the process equipment is integrated in the isolator in wash-in-place (WiP) tablet presses. Automated cleaning of the tablet presses relieves the operator while reducing machine downtimes.



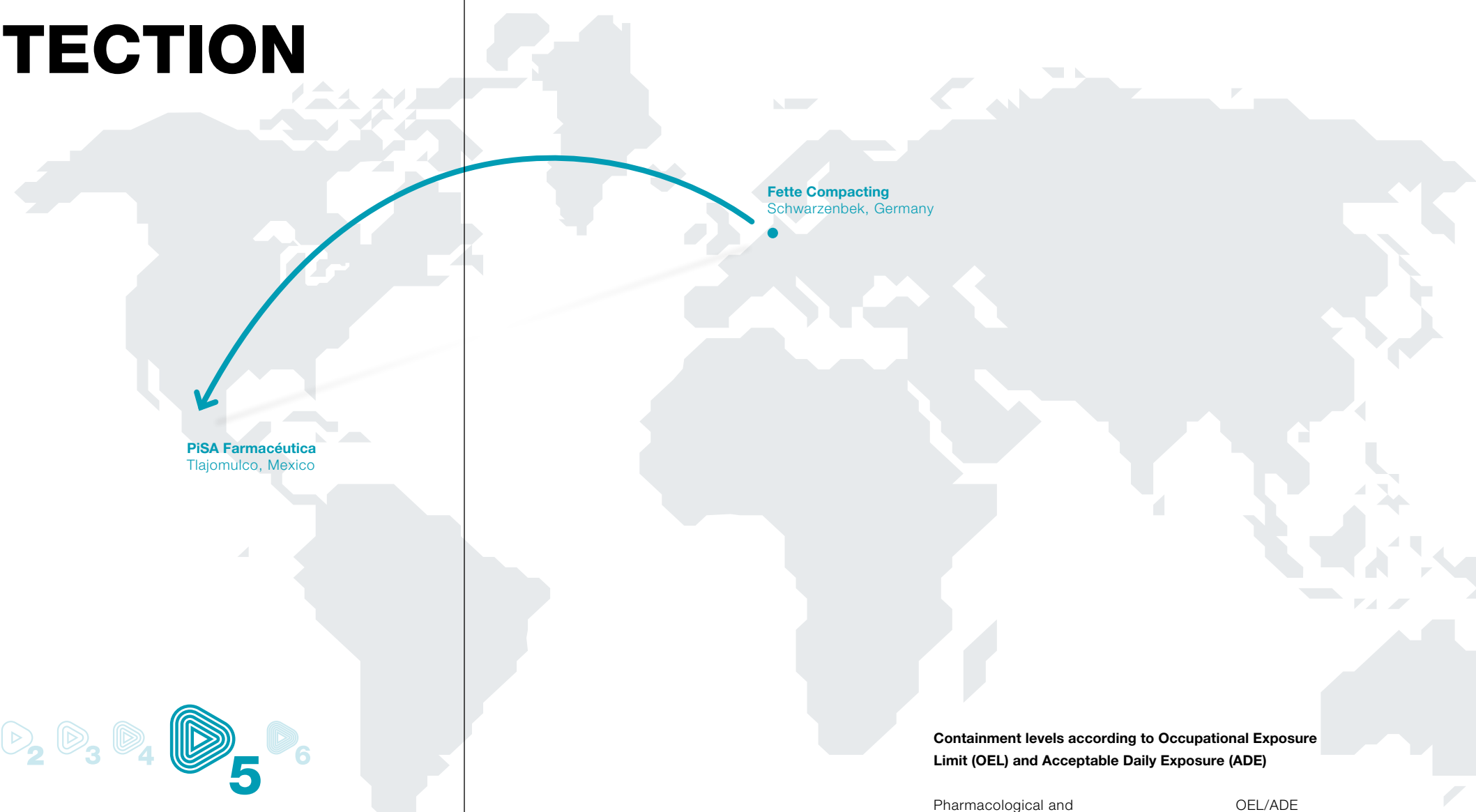
Efficient comprehensive support

Apart from the tablet presses supplied by Fette Compacting, the production lines also include components from Glatt and Uhlmann Pac-Systeme. Fette Compacting assumed the role of coordinator and contact partner for the entire project. Having one key point of contact was a decisive factor for PiSA: "We were on the lookout for a reliable partner capable of taking charge of the entire process from production through packaging as well as supplying and supporting the entire plant from a single source," says Adriana Contreras, Engineering Director in Tlajomulco. "We found this partner in the form of Fette Compacting."

Even after installation of the plants, PiSA continues to align any potential service issues with the specialists in solid formulations in Schwarzenbek. "If there are problems with one of the machines, PiSA always contacts us, even if the problem does not concern one of our tablet presses," explains Andres Garcia, Managing Director Fette Compacting Mexico.



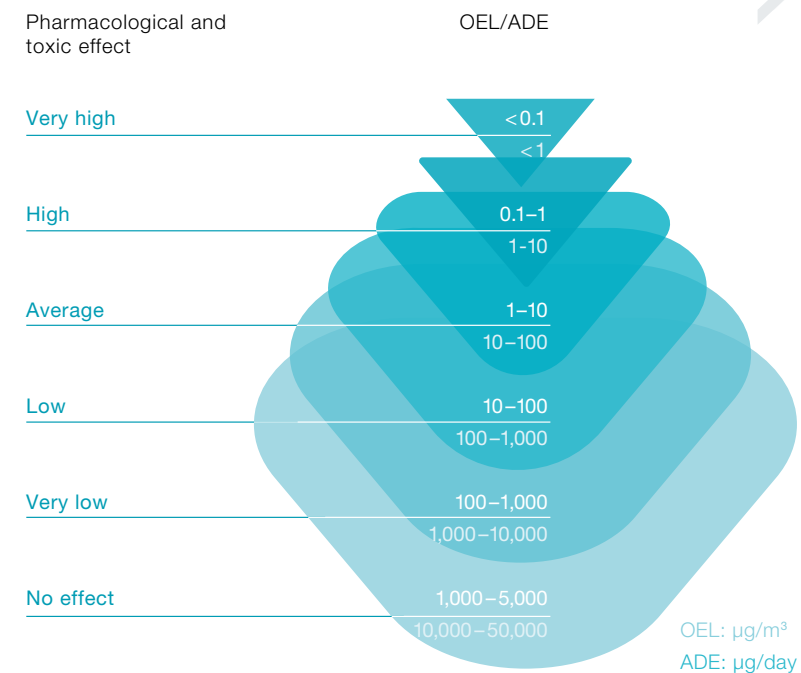
Adriana Contreras,
Engineering Director at
PiSA Farmacéutica in Tlajomulco



Fette Compacting
Schwarzenbek, Germany

PiSA Farmacéutica
Tlajomulco, Mexico

Containment levels according to Occupational Exposure Limit (OEL) and Acceptable Daily Exposure (ADE)



Impressive from the start

The intensive trust between PiSA and Fette Compacting has grown bit by bit over the years. “We have been collaborating with PiSA since 2011,” claims Garcia. “Back then, we supplied two 2200i tablet presses. Although we did not have our own subsidiary in Mexico at the time, this initial contact laid the foundations for cooperation in the years to follow.”

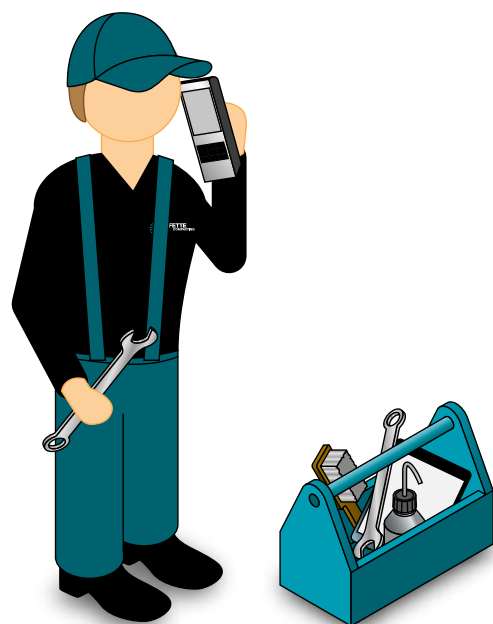
The major breakthrough came in 2014 with a presentation by Fette Compacting at the Exopack Mexico. A PiSA representative was inspired by the machine manufacturer’s product presentations and ordered two FE35 tablet presses shortly after. Presentation of fast and easy conversion of the FE35 live at the Exopack stand was particularly impressive.

Reliable machines, comprehensive service

But the technical quality of the machines is not solely decisive for this long-term collaboration. PiSA was particularly convinced by the service offered by Fette Compacting right from the start: “We were on the lookout for reliable machines offered by a supplier also offering an extensive range of services and maintenance,” reports Luis Marcos Mancera, Maintenance Manager at the PiSA tableting plant in Tlajomulco.

Supporting the machines during operation requires permanent availability and short response times. When problems arise with a tablet press, technicians are swiftly on hand to remedy the fault. The service team is available around the clock and is also on call over the weekend. What’s more, Garcia and his team conduct training courses to ensure that PiSA employees are familiarized with new machines and always capable of operating them with maximum efficiency.

“What has made Fette Compacting such a valuable partner is not only its modern and ultra-precise technology but also its excellent service offered in the form of machine support,” sums up Luis Marcos Mancera.



In control at all times: in order to realize two comprehensive high-containment plants, Fette Compacting acted as the central contact partner.

The 1090i WiP single-rotary press with process equipment and isolator at PiSA.

HOLDING FIRM

Now more than ever before, anyone hoping to commission a capsule filling machine during lockdown needs an experienced and digitally-connected team of experts. In Spain, this endeavor was successful on two occasions.

Accuracy is of the essence when setting up a capsule filling machine. Even aligning the feet is regarded as an essential element of machine installation to ensure that components interlock smoothly and products flow optimally. Normally, a team of the machine manufacturer's handles the installation and the Site Acceptance Test (SAT) on site. But when a pandemic forces the world into yet another lockdown and distant travel is not an option, alternatives need to be found.

Double call from Spain

In Spain, this was the case among two pharmaceuticals producers: one manufacturer wanted to fill capsules with powder with an analgesic and antipyretic effect. Another wanted to manufacture pellet capsules for treating gastrointestinal problems.

"These were entirely different product and machine requirements which we had to comply with under exacerbated conditions," explains Carsten Schulz, Project Manager at Fette Compacting. "Despite the pandemic, two factors made it possible to commission the plants in time: a digitally-connected team of experienced experts and the tried-and-tested technology of the FEC Series."



»DESPITE THE PANDEMIC, TWO FACTORS MADE IT POSSIBLE TO COMMISSION THE PLANTS IN TIME: A DIGITALLY-CONNECTED TEAM OF EXPERIENCED EXPERTS AND THE TRIED-AND-TESTED TECHNOLOGY OF THE FEC SERIES.«

Carsten Schulz, Project Manager at Fette Compacting



Aligning the FEC20 capsule filling machine feet in Spain: thanks to a digital connection with the team in Germany, only one service technician is on site (here: Alber Vilà from Fette Compacting Iberica).



Colleagues in Germany kept a digital eye on the gradual set-up of the FEC20 at the Spanish customer's.



FEC20: armed with a camera and a spirit level

The user had the goal of increasing his output of capsules filled with powder from a previous level of 140,000 capsules to up to 200,000 capsules per hour. At the same time, the machine was to be easy to operate and clean. "The answer came in the form of the FEC20," according to Schulz. "We had already tested and documented it in advance in test runs with the product in the Technology Center in Schwarzenbek." The FEC20 is designed for medium batch sizes and maximum user friendliness. For example, the tamping pin station can be easily removed for dismantling and cleaning outside the machine. If necessary, it can be immediately replaced with a pre-fitted station.

"For us, the decisive question was how to achieve commissioning during lockdown but to unchanged quality requirements," recalls Schulz. "For effective collaboration, we have interconnected our locations using video conferencing. We supported commissioning via remote video with the result that there was only ever one service technician on site. Via a remote connection, the team passed on its experience concerning alignment of the machine feet using a spirit level or connecting the process equipment, for example. This enabled us to ensure that the plant harmonized optimally with the production environment."

FEC40: ready for operation in no time at all

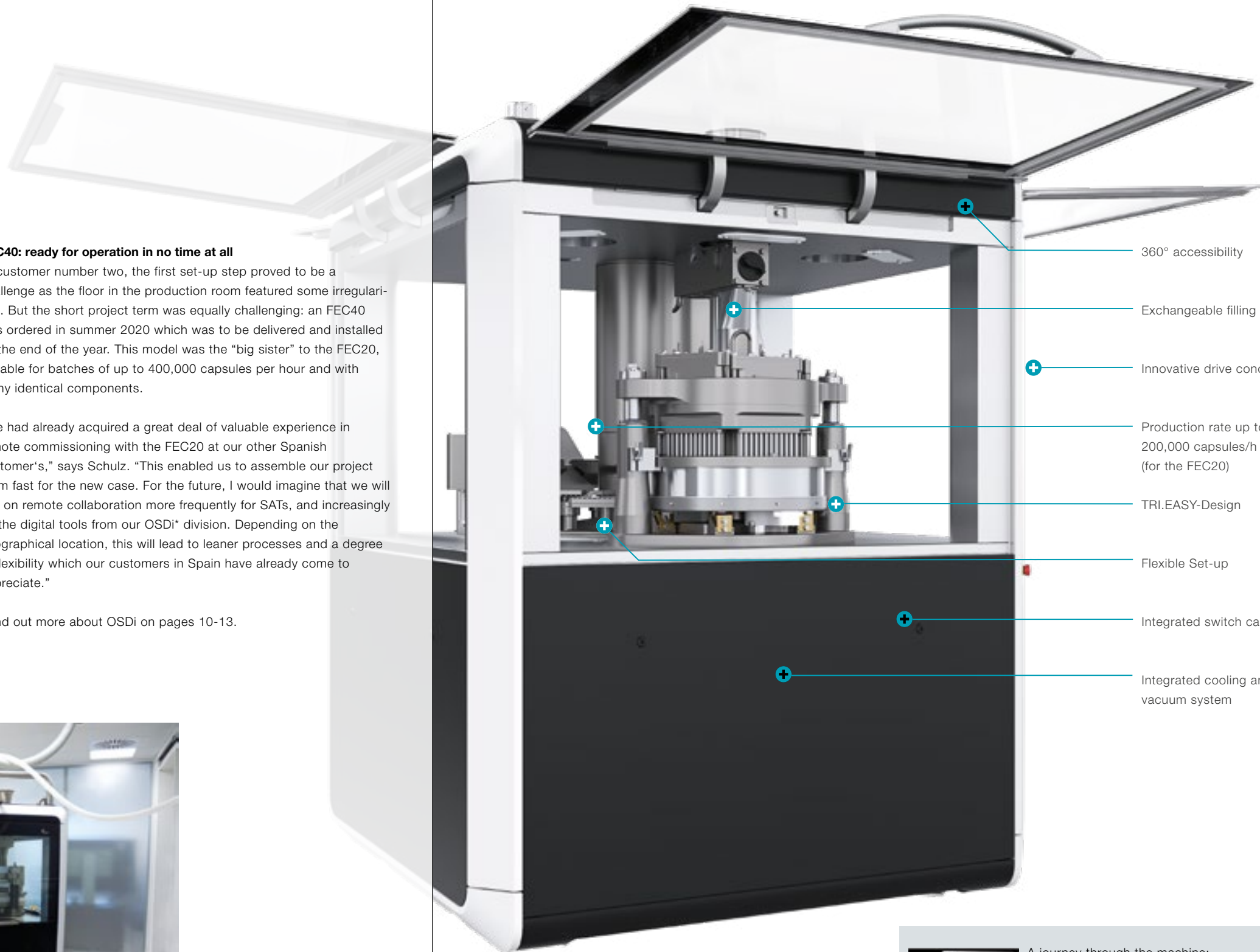
At customer number two, the first set-up step proved to be a challenge as the floor in the production room featured some irregularities. But the short project term was equally challenging: an FEC40 was ordered in summer 2020 which was to be delivered and installed by the end of the year. This model was the "big sister" to the FEC20, suitable for batches of up to 400,000 capsules per hour and with many identical components.

"We had already acquired a great deal of valuable experience in remote commissioning with the FEC20 at our other Spanish customer's," says Schulz. "This enabled us to assemble our project team fast for the new case. For the future, I would imagine that we will rely on remote collaboration more frequently for SATs, and increasingly on the digital tools from our OSDi* division. Depending on the geographical location, this will lead to leaner processes and a degree of flexibility which our customers in Spain have already come to appreciate."

*Find out more about OSDi on pages 10-13.



During test runs at the Technology Center in Germany, the FEC20 has proven its performance.



360° accessibility

Exchangeable filling stations

Innovative drive concept

Production rate up to 200,000 capsules/h (for the FEC20)

TRI.EASY-Design

Flexible Set-up

Integrated switch cabinet

Integrated cooling and vacuum system



A journey through the machine: this video uses the FEC40 as an example of the functional principle of the capsule-filling process for both powder and pellets.
<https://youtu.be/Huq7SeTVfhk>



GLOBAL DEMAND

Tablets and capsules are more than just medicine. They also play a significant role in the growth market of nutrition.

Manufacturers of nutrition supplements and biological products have been enjoying above-average sales growth for several years now. Consumers avail of the diverse preparations to supplement their nutrition and for pleasure.

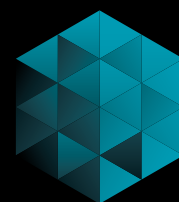
12 percent growth

The global nutrition supplements market has been given an extra boost during the coronavirus pandemic. Accordingly, 2020 was a record-breaking year with growth of around 12 percent, as revealed in a study by Grand View Research. Market researchers are anticipating a further 8.6 percent growth per year until 2027. The market for vegetarian foods is to grow by 12 percent to 74 billion US dollars (USD) over the same period.

Among the various forms of administration, tablets will remain top of the list with an expected growth of 7.1 percent. Sales reached approx. 48 billion USD in 2020. This figure is to exceed 77 billion USD by 2027. Capsules come in second: sales thereof are to increase from 30 billion to more than 54 billion USD between 2020 and 2027.

Sustainable and cost-efficient

Overall, the global trend is toward resource-saving, sustainable production and cost-efficient products of high quality. E-commerce platforms, mass production, and a strong competitive environment foster a course of growth as prices remain low. These are good perspectives for nutrition!



NEXT LEVEL NUTRITION



preliminary cover

An overview of all nutrition technologies

The tableting and capsule filling technologies from Fette Compacting offer the appropriate solutions for any requirement in the production of nutrition supplements. They combine reliable technology with maximum food safety. In our new brochure, we will soon be presenting the technologies with practical examples. Order your copy here: tablet@fette-compacting.com



UNDER THE FLORIDA SUN

Health Genesis is riding the wave of growth in the nutrition supplements market. Not far from Miami, this family-owned company produces high-quality nutritional supplements

Vitamin D is a classic case of nutrition supplements. Although the human body can produce the vitamin itself, this is only possible when there is enough sunshine – and that is something which can often be lacking in our modern everyday lives. As a “sun substitute”, Health Genesis manufactures Vitamin D preparations, among others, from its ideal location in the Sunshine State of Florida.

“We also produce minerals, sports products, enzymes, and other vitamins in their respective suitable forms,” explains Irena Bozdogan, President at Health Genesis Corporation. “As a family-owned company with cGMP-certified equipment, we have high demands on quality: from the very best raw materials to reliable production technology and detailed final inspection.”

Product variety which runs smoothly

In an effort to combine these demands with more efficient production, Health Genesis has opted for a refurbished tablet press 2090i from Fette Compacting. This single-rotary press is based on technology which has been tried and tested and is flexible, is easily cleaned, and can be converted to various formats.

“We wanted to use it to efficiently achieve tablet forms of several types of vitamins, a plant-based enzyme, the L-Citrullin amino acid, and the L-Carnitin ‘fat-burner’,” explains Bozdogan. “The product variety in particular means that we attach great importance to easy conversion. But what also inspired us about Fette Compacting was the smooth machine installation and extensive operator training. And we have been amazed at the commitment shown by the team from the very start.”



»AS A FAMILY-OWNED COMPANY WITH CGMP-CERTIFIED EQUIPMENT, WE HAVE HIGH DEMANDS ON QUALITY: FROM THE VERY BEST RAW MATERIALS THROUGH RELIABLE PRODUCTION TECHNOLOGY TO DETAILED FINAL INSPECTION.«

Irena Bozdogan, President at Health Genesis Corporation

HealthGenesis®



The project team of Health Genesis and Fette Compacting has been working together with commitment since the first minute.

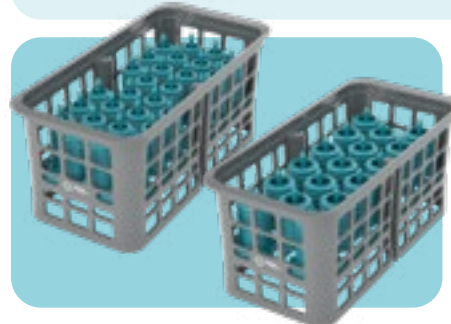
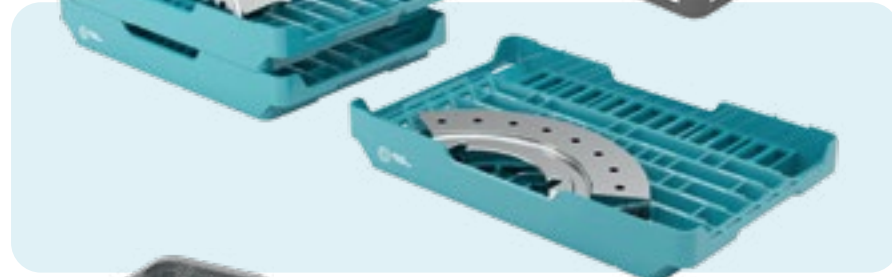


Keith Lindemann, Senior Customer Support Specialist at Fette Compacting, with Irena Bozdogan.

EVERY MOVEMENT COUNTS

Tableting tools still require some manual work. Apart from the operator's qualifications, the Tool Box System in particular is decisive when it comes to efficiency during handling.

The transport, cleaning and storage of tableting tools is still primarily manual work. These work steps occur frequently in everyday production which means they account for a considerable share of overall efficiency. The rule is: every movement that is carried out correctly or can even be dispensed with entirely, thanks to an optimized system, counts. Conversely, handling can be a challenge if there are major deviations in personnel and shift plans, for example. This has often been the case during the pandemic.



Trays are now available for easier cleaning of segments, bellows, and dust caps.

One Tool Box System for everything

As a system solution, the TRI.EASY Tool Box from Fette Compacting has already proved itself in practice. The all-in-one system for punches, segments and dies covers all levels of tool handling. It reduces interim steps, thereby increasing throughput speed. Most of all, the risk of damage to the high-quality tableting tools is reduced.

New trays

Another thing: as a technology partner, Fette Compacting is constantly expanding its handling system. As of 2021, new products also include trays for cleaning segments, bellows and dust caps.

News bellows and dust caps

What's more, a metal additive to the silicone of the bellows and caps makes automatic detection possible. Easy detection using a metal detector is therefore possible in the event of contamination. Assembly of the bellows no longer includes the retaining ring which enables users to save on even more handling steps.

KENDY'S BOX

The nutrition manufacturer Kendy Pharma has opted for the Tool Box System from Fette Compacting, making lots of things easier since.

In Bankja, Bulgaria, Kendy Pharma manufactures nutrition supplements, including vitamin and mineral preparations as well as dietary products for strengthening bones. All nutrition supplements in tablet form are produced on three i Series tablet presses.

"We have been convinced of our collaboration with Fette Compacting since 2005," reports Vladimir Kostadinov, Technical Manager at Kendy Pharma. "The only area still requiring improvement was in handling the tools. Cleaning and transport were too time-intensive which meant handling lagged behind the otherwise so efficient technology."

Plastic boxes are a thing of the past

At the Interpack trade fair in 2017, the company first appraised the TRI.EASY Tool Box System from Fette Compacting which was still an absolute innovation at the time. "We immediately saw that there was a world of difference between the plastic boxes used in the past and the new Tool Boxes," claims Kostadinov. "After some initial tests, we decided to use a Tool Box for each format size."

Kostadinov sees the most important advantages in the more compact size which facilitates handling at the machine, for example, and in the time saved when cleaning. "We have two washing machines but manual cleaning is still often necessary. For example, in the case of sharp-edged or special tablet design," adds Kostadinov. "In both situations, the boxes and trays where tools are stored together have significantly facilitated the cleaning process. On average, we save a full hour per cleaning cycle – more than we would have expected."



A place for everything: Ivaylo Georgiev, Mechanic at Kendy Pharma, works with the Tool Boxes every day; in this case, the segment box with a practical plug-in system.

»WE IMMEDIATELY SAW THAT THERE WAS A WORLD OF DIFFERENCE BETWEEN THE PLASTIC BOXES USED IN THE PAST AND THE NEW TOOL BOXES.«

Vladimir Kostadinov, Technical Manager at Kendy Pharma



Lean solution: the more compact trays also facilitate handling during assembly.

IT'S THE MIX THAT MAKES IT



Production processes can be complex and potentials for optimization extensive. Accordingly, it is worth developing a separate department to handle these tasks. Despite internal expertise, a view from the outside can help – particularly when it comes to specific machine know-how. This is how performance consultants at Fette Compacting cooperated with a German manufacturer of painkillers to find the appropriate levers – often in unexpected areas.

On the basis of “Lifetime Efficiency,” Fette Compacting supports companies along the entire life cycle of machines. The importance of this type of cooperation is indicated by the example of bene-Arzneimittel GmbH, a German contract and own product manufacturer in Munich. During the production of a special painkiller tablet, the goal was to optimize the product quality in an effort to continue to comply with the company's high requirements.

bene-Arzneimittel specializes in products featuring paracetamol which it offers in numerous forms and dosages. The variant featuring additional codeine – as a supplementary analgesic – concerns a formula which has been used for many years, but this combination also makes it a complex formulation. The newly established “Pharmaceutical Technology” department at bene-Arzneimittel chose this process and the particular formulation for systematically exploring optimization possibilities. Many tablets containing codeine feature the active agent in granulate form which increases the costs of raw materials and products. In contrast to its competitors, codeine is pressed directly at bene-Arzneimittel. This permits more cost-efficient production but also requires the corresponding process expertise. In view of the potential of the tried-and-tested formulations, this process expertise is to

be optimized on a step-by-step basis. In order to utilize all of the available levers in the downstream process of tableting, bene-Arzneimittel turned to the performance consultants at Fette Compacting for support.

A sensitive mix

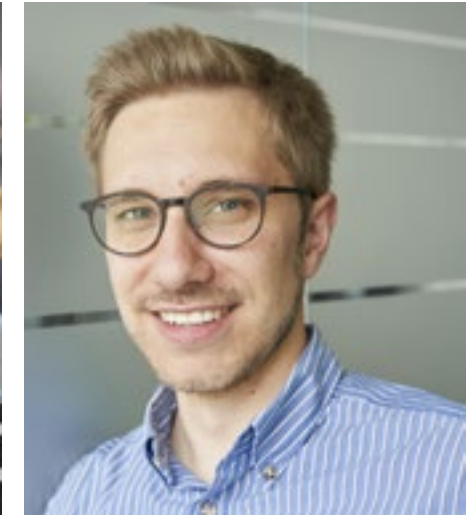
First of all, the aim was to take a close look at the various factors influencing the pre-process. “Building on this, we developed a concept for changes to the mixing process in order to have their influences on tableting systematically analyzed by Fette Compacting,” claims Tobias Werum, who is a validation specialist in the Pharmaceutical Technology department at bene-Arzneimittel. Adjusting these levers swiftly led to an improved mixing quality and flow properties as well as more consistent filling of the tablet press for the subsequent tableting process.

Optimal parameters and the right tools

“On the basis of initial results, we were able to further improve the result by adjusting the machine,” explains Jochen Gäth, a performance consultant at Fette Compacting who assessed the individual changes and their influence on tableting. This enabled the number of bad tablets to be reduced by around 50 percent. In an effort to prevent flaking on the top side of the tablets, additional parameter adjustments were made. “By changing the immersion depth, we achieved better ventilation and were able to improve the quality once again,” is how Gäth describes one of the main levers he succeeded in identifying during the tests conducted in collaboration with Tobias Werum. Consequently, there are plans for long-term optimization of the tools used. For example, investments in new segments and an improved Fill-o-Matic are to ensure optimized ventilation in the future.



Even minor adjustments can have major impacts on tablet quality: quality control at bene-Arzneimittel



Tobias Werum, validation specialist in the Pharmaceutical Technology department at bene-Arzneimittel

A close partnership

Employees in the Pharmaceutical Technology department at bene-Arzneimittel act as technological experts, providing in-house and – in the case of contract jobs – external consulting with the requisite know-how on the optimization potential of the respective production facility. On a partnership basis, this cooperation between the performance consultants at Fette Compacting and the experts in the Pharmaceutical Technology department ultimately led to an improved mixing quality thanks to the joint expertise available for this project, as well as very good flow properties, optimized and consistent tableting, and specific investments for continuous improvement. All in all, this cooperation enabled a more than three-fold increase in output to 180,000 tablets per hour – accompanied by improved tablet quality.

bene-Arzneimittel was extremely satisfied with the result: “We can also apply the current results and optimizations to other product groups, thereby continuously improving the performance of our products,” adds Werum.

Efficiency for an optimal process

Without any complex new formulation, the team collaborated in finding a significantly simpler solution which also ensures an optimized overall process. In view of the good results, further improvements are planned to extend the optimized process and product quality as well as to further increase output – while reducing the number of bad tablets.

“Lifetime Efficiency is a comprehensive and continuous process,” explains Jochen Gäth. “It starts with an analysis of the production requirements and conditions in our Technology Center and continues along the entire life cycle of the machines. Our experience has shown that practically every process harbors some potential. And it is our goal to lever this potential.”



Would you like to take a closer look at your production?

Talk to our Performance Consultant, Jochen Gäth.

Jochen Gäth

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FROM THE WORLD OF FETTE COMPACTING


WHAT'S NEXT?

CONTAINMENT CIRCLE


WELCOME TO THE CONTAINMENT CIRCLE

Successful start for Fette Compacting's digital event series. The Containment Circle enjoyed a large number of participants on 27 May 2021. Over a period of three hours, expert knowledge was communicated on the requirements on production of solid formulations under containment conditions. Fette Compacting broadcast the program live from Schwarzenbek, both in the morning and afternoon, German time, to enable participation by the international audience. Viewers were able to ask questions via a chat function which were then answered live by the experts. Fette Compacting will continue the series with events on the topics of Nutrition, Continuous Manufacturing, and Digital Solutions.





Go to the event platform:
www.whats-next-the-inner-circle.com



ACHEMA PULSE

KNOW-HOW COMMUNICATED DIGITALLY

Visitors to the ACHEMA Pulse in June 2021 could look forward to an attractive program of events on innovations in the processing industry. Experts at Fette Compacting displayed their know-how on the topic of production of solid formulations in the digital version of the world's leading trade fair. A total of nine live events, five of which were staged in cooperation with Excellence United, were the topics of Tableting Tools, Capsule Filling, OSDi Digital Solutions, Continuous Manufacturing, Leadership in Containment, Life Cycle Efficiency, Pharma 4.0 and Perfect Project. The next ACHEMA is scheduled to take place in Frankfurt am Main from 4 to 8 April 2022. We are already looking forward to seeing you again on the exhibition grounds!





LIFETIME
EFFICIENCY

菲特中国研讨会日程表

**HIGH EFFICIENCY IN PHARMA &
NUTRITION INDUSTRY –
IMPROVEMENTS & FUTURE TRENDS
IN OSD PRODUCTION**

Zhuhai: With an approach based on cooperation

In April 2021, the Fette Compacting China Seminar attracted more than 200 guests from the pharmaceutical and nutrition industry to Zhuhai, the southern Chinese city on the Sea of Pearls. The event was hosted by BY-HEALTH, a fast-growing manufacturer of nutritional supplements. Established in 2012 in Zhuhai, its site has a production capacity of five billion tablets per year. There, several tablet presses from the P Series are operating at high speed. This is why BY-HEALTH has also identified Fette Compacting as a strategic cooperative partner. The success factors for such a partnership were a key topic at the customer seminar: from efficient production trends through reliable service and consulting to comprehensive cooperation along the entire machine life cycle.

“Our philosophy is to create added value for our customers by way of continuous optimizations,” emphasized Dr. Andreas Risch, Managing Director at Fette Compacting China, at the opening ceremony. “In order to develop products which actually meet customer requirements, it is necessary to listen closely to them, understand their needs, and tackle innovations in a targeted manner. Direct exchanges, as made possible by this seminar, are of inestimable value in this regard.”

Qingdao and the return of the trade fairs

Even now in 2021, the Covid-19 pandemic has meant that numerous trade fair events have had to be postponed by a year. All the more gratifying, therefore, that the declining rates of infection in China made it possible to convene at a real-life trade fair: May 2021 saw the National Pharmaceutical Machinery Exposition (CIPM) Spring China open its doors in the harbor city of Qingdao in eastern China. Fette Compacting was on site with an extensive range, e.g. the F10i single rotary press from the new i Series, the successful, reliable and recognized P Series tablet presses, the mobile SmartInterface app, the wide range of tableting tools, and a live seminar on Lifetime Efficiency.



Liangping Cai, General Manager
at BY-HEALTH.



Dr. Andreas Risch, Managing Director
at Fette Compacting China.



CIPM





Ten years, one question: What's Next?

On the occasion of the tenth anniversary of our customer and trade fair magazine, we would like to thank you as loyal readers!

Which articles do you like best? What would you like to read more about? We look forward to your input:

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