

Smart Manufacturing

Optimizing Pharmaceutical Production Processes with Intelligent Engineering

Pharmaceutical manufacturers need to accelerate innovation and cope with ever stringent regulation before getting market approval for new treatments. These challenges also call for more efficiency and compliance of drug manufacturing and formulation processes. Mumbai, India-based ACG Group offers services and solutions to tackle these challenges. Founded as Associated Capsules Group in 1964, ACG today delivers end-to-end manufacturing solutions for the pharmaceutical industry in over 100 countries. In December, ACG appointed Marcus Michel as CEO of its Engineering division. Looking back at many years of engineering experience for the global pharmaceutical industry he will lead ACG Engineering into the future. Michael Reubold asked him to analyze pharma market trends and present his strategy.

CHEManager: ACG is a well-known company in the pharma sector, so it is no surprise that the opportunity to join them must have been appealing. Did you have any concerns leaving equally respected German company GEA and moving to India in these uncertain and troubling times?

Marcus Michel: Certainly, at first you might have these concerns. However, with a few exceptions, all countries are currently affected by the pandemic. Lockdown, home office, sanitary regulations and social distancing rules determine our everyday life and it therefore makes no significant difference where you are currently working from.

The coronavirus pandemic has shown that the pharmaceutical industry and the associated pharmaceutical process engineering industries are able to face challenging tasks worldwide. It is less important from which local base you operate, but how you can contribute to the global effort in terms of innovative products and comprehensive service. In addition, it is only a matter of time before we will be able to get back to a normal, safer life with the vaccinations that have started worldwide.

Which challenges are ACG's customers currently facing and which trends are dominating today's pharma engineering sector?

M. Michel: There are regional as well as corporate differences here. While some customers are strongly concentrated on optimizing production processes in order to minimize their production costs, others attach great importance to the highest degree of flexibility and product quality. Different solutions are required to meet the individual needs of the customers.

“Digital solutions will play an essential role in drug research and pharmaceutical production in the future.”

ACG offers tailor-made and customized solutions for the respective requirements. We are also very much oriented towards monitoring and responding to the trends that emerge in



the pharmaceutical industry, as well as adjacent industries. These trends are determined by the introduction and application of new technologies, which are behind the keywords like digitization, IOT, smart manufacturing, personalized medicine and—ultimately—Pharma 4.0.

Which experiences and expertise from your former jobs can you bring into your new position to develop ACG's solutions portfolio and market approach?

M. Michel: During the past 25 years I have dealt with international plant and mechanical engineering companies for various technology industries. This has enabled me to gain extensive experience that allows me to quickly recognize complex issues and to implement adequate measures successfully. In today's VUCA world, agility, resilience and decisive action have become even more important. It is precisely the knowledge from the various industries, and from the respective regional markets with their cultural differences in customer's behavior and needs, that will enable me to develop the ACG Engineering division further strategically into a global player in the field of pharmaceutical engineering.

Can you please give us a quick overview of ACG Engineering's core competences and capabilities?

M. Michel: A comprehensive portfolio in the field of pharma oral solid dosage applications, that encompasses



Marcus Michel, ACG Engineering

process and apparatus solutions for the production of tablets and capsules. This includes materials handling, fluidized bed drying, tablet press and capsule filling machines, coaters, blistering and packaging machines, as well as corresponding analysis technologies.

In particular in the area of capsule production and filling, ACG has an almost unique core competence that has been developed and expanded over almost 60 years. In addition, our very well-trained after-market service ensures regular support for our customers around the world, which is especially critical in this current Coronavirus period.

How can ACG Engineering help drive pharmaceutical innovation and meet regulatory as well as quality, anti-counterfeiting, and cost efficiency requirements?

M. Michel: ACG Engineering sees itself as a solution provider and we will expand this claim even more in the next few years. This means that ACG Engineering and the technology center Scitech, which belongs to the ACG Group, work together with their pharmaceutical and food customers even earlier and more intensively to find sophisticated solutions that meet the required quality, counterfeit, and cost-efficiency requirements. Here ACG Engineering focuses on the in-



tensified application of digital technologies. It is therefore not surprising that ACG will invest several million euros in the development and expansion of digital technologies in its machines and processes in the upcoming years. Our genesis presence in India offers significant advantages when it comes to almost unlimited IT resources.

Digitalization has umpteen faces; how will digital solutions transform drug formulation and pharmaceutical manufacturing?

M. Michel: Digital solutions are already significant today and will play an essential role in drug research and pharmaceutical production in the fu-

ture. Personalized medicine and the correct evaluation and use of big data are just two examples of how digital transformation can contribute to significantly shortening the go-to-market time. The area of pharmaceutical manufacturing is also experiencing a transition to smart manufacturing.

All of these applications call for new design and engineering approaches, which digital transformation can support. Utilizing augmented reality and virtual reality, for example, 3D design, process unit design and the digital twin in machine design, will contribute to improvements. It will reshape the individual project process steps, from the offer management, design, engineering, procurement, project execution, to the FAT / SAT, as well the after-market service.

Our current 'new normal' business life, caused by the restrictions of the Coronavirus pandemic, has already demonstrated in the last few months what is possible and necessary with regards to digital transformation.

In 2019, ACG Engineering acquired pharma processing equipment company Xertecs in Germany—that now serves as ACG's European innovation center. What will the facility contribute to ACG's products, services, and capabilities, and how will it interact with ACG's global innovation network?

M. Michel: Xertecs has been a 100% subsidiary of the ACG Group since 2019 and is operationally part of the

ACG Engineering division. Due to its history, it has served the technology groups' materials handling and fluidized bed processing as a design and engineering unit. It thus contributes significantly to the qualitative and reliable process solutions for our customers around the globe. In order to meet the demands of our customers in Europe, especially in the DACH region, we will further expand the location and activities of Xertecs in Muellheim, Germany, with regards to innovative product design, a customer test center, and a European service hub as an integrative part of the global innovation network of ACG.

www.acg-world.com/engineering



ACG Engineering's comprehensive portfolio in the field of pharma oral solid dosage applications encompasses process and apparatus solutions for the production of tablets and capsules. Recently, the group added a new process development lab in India to provide ACG's customers and partners with a research, development, testing, and training environment.



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