

Hanover, April 24, 2017

Hannover Messe 2017, Hall 9, Booth D35

## Faster, personalized pharmaceutical production through digitalization

The “Pharmaceutical Industry” showcase in the Siemens booth at Hannover Messe 2017



An increasing global population and rising requirements from patients and health authorities are making it more and more difficult for pharmaceutical companies to achieve continuous growth. In addition, personalized medicines for patients are playing an increasingly important role, as they are tolerated better due to differences in patients' metabolisms and cause fewer side-effects. Pharmaceutical companies can target this market in order to remain ahead of the competition, but this means reducing time-to-market while complying with complex quality and patient safety regulations. At Hannover Messe 2017, Siemens will be demonstrating how Integrated Engineering to Integrated Operations increases process efficiency and flexibility. By analyzing hardware and software products, Siemens is helping the pharmaceutical industry increase its process knowledge.

Siemens has developed a solution portfolio tailored to the specific needs of this industry in order to meet the two major challenges facing pharmaceutical companies: personalized medicine and increased productivity. Based on a plant model at the booth, visitors will be offered a firsthand look at several digitalization steps that make individual processes more efficient, more flexible and more manageable, from development and production to market readiness. It all begins in the lab with the development of new active ingredients, with support from Sipat process analysis software. Sipat makes it possible to optimize production by introducing a continuous production process. The entire workflow, from production to drug approval, takes an enormous amount of time and effort due to laborious approval and documentation processes, and personalized medicine will only add to the complexity.

This is why Siemens has developed paperless production solutions that significantly reduce effort as well as complexity, making it easier to meet the documentation and testing requirements imposed by the regulatory authorities. In treating cancer, for example, it's possible to analyze individual tumor markers in patients and produce medicine tailored to their specific needs. Based on the example of the BioNTech biotechnology company, which specializes in personalized cancer immunotherapies, Siemens demonstrates at the booth how it is pioneering these types of new methods and making them a reality.

Economic feasibility is also an important issue. The Siprocess GA700 gas analyzer makes it possible to monitor and control production of biological API (active pharmaceutical ingredients). Presented at the Hannover Messe for the first time, this solution helps maximize yields and minimize the use of raw materials at an unprecedented level of precision and speed.

Once drugs are already available on the market and production is running on a large scale, automation can significantly increase productivity. Siemens demonstrates this on the basis of a success story with the Julphar pharmaceutical company from the United Arab Emirates. Julphar was able to adapt the production of insulin for the Gulf region to satisfy rapidly growing demand in an almost fully automated plant. Manual intervention is necessary only in exceptional situations.

Digitalization provides other benefits as well. The AX4 cloud application implements the digital supply chain for the process industry. Effective and intelligent data storage by linking to the open IoT operating system MindSphere creates added value for pharmaceutical companies.

Simulating plants and parts of plants helps the engineering process and reduces commissioning time with efficient testing in the virtual world. The production plant's digital twin supports production process optimization.

At the same time, Siemens is also demonstrating its solutions for producing chemical agents (Chem API) with Simatic PCS 7, Comos, Simit and XHQ. Trade visitors will also learn about Siemens solutions for industrial communication and cyber-security as well as software for analyzing and optimizing relevant process indicators. With these developments, the company is helping the pharmaceutical industry consistently comply with all regulations and optimize processes throughout the entire life cycle. As an innovative partner, Siemens is assisting the pharmaceutical industry in economically developing innovations and helping people.

This background information and further material are available at

[www.siemens.com/press/pool/de/events/2017/digitalfactory/2017-04-hannovermesse/background-pharma-e.pdf](http://www.siemens.com/press/pool/de/events/2017/digitalfactory/2017-04-hannovermesse/background-pharma-e.pdf)

For further information on Siemens at the Hannover Messe 2017, please see

[www.siemens.com/press/hm17](http://www.siemens.com/press/hm17) and [www.siemens.com/hannovermesse](http://www.siemens.com/hannovermesse)

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