

Hanover, April 23, 2018

Hannover Messe 2018, Hall 9, Booth D35

Food and Beverage: When digital twins brew beer

Food and Beverage showcase at the Siemens booth at the Hannover Messe 2018



All beers are not created equal. Different ingredients and temperatures as well as fermenting times and steps come together to create an enormous variety of beers. This is as true for multinational corporations with many brands as it is for small craft breweries with many recipes. Because they all share one thing in common: They

always have to deliver top quality in order to satisfy their customers – no matter how complex the brewing process may be. Rising cost pressure and seasonal fluctuations in demand also present additional challenges. Using digital twins, all workflows can be realistically simulated down to the last detail – from the recipe to bottling – in a fully digital environment. This means that breweries of any size can test and optimize their processes without risk, until they are able to produce the actual beverage efficiently, flexibly, and to the highest standard of quality.

At the Hannover Messe 2018 from 23 – 27 April, Siemens will be using the example of brewery solutions to demonstrate how the entire food and beverage industry benefits from digitalization. The Siemens portfolio of products and solutions adapted specifically to meet the needs of the brewery industry has proven highly successful across many different companies in practical application. Under this year's trade fair banner "Digital Enterprise – Implement now!", the Food and Beverage highlight showcase at the Siemens booth will be demonstrating how companies of all sizes from across the industry are already securing decisive competitive benefits using solutions from the Digital Enterprise portfolio.

The Food and Beverage showcase will feature a graphic and easily understandable demonstration of ways in which both the US American bottling company Constellation Brands International, which owns the Mexican brand Corona, and the craft beer specialist DME Brewing Solutions use Siemens digital technologies and automation solutions. Regardless of the quantity produced, achieving optimum beverage quality is the top priority. Success here is all about the data: Starting with the recipe used through the entire brewing process to bottling, end-to-end digitalization creates a perfect virtual map of each process step. Using the Simatic IT R&D Suite from Siemens, breweries such as San Miguel are able to generate a digital twin of their envisaged product as early as the R&D stage. The twin contains all the relevant data, and so permits the downstream processes to be simulated under realistic conditions, enabling workflows to be tested and quality standards to be reliably met. This is all possible using Plant Simulation PLM Software from Siemens, which allows production equipment to be exhaustively tested without disrupting actual production. The result: optimized processes ensuring a greater degree of flexibility and consequently a sharper competitive edge.

At the Hannover Messe 2018, Siemens will also be demonstrating the importance of data in actual production. The Braumat process control system from Siemens designed specifically to address the needs of the brewing process covers the entire life cycle. Working in conjunction with the Simatic S7-1500 Advanced Controller, Braumat lightens the work load and ensures a consistent standard of beer quality, providing everything from an intuitive recipe system to an efficient process overview, tank management and customized reporting. The Simatic PLC and Simatic visualization system WinCC ensure transparency in the bottling process and efficient control of production. What is created is a digital twin of both process and product performance which enables on-going optimization – right back to the research and development stage. Here, performance data is used as the basis for the improvement of recipes. The data required is captured and analyzed using the cloud-based open IoT operating system MindSphere and a special MindApp designed to intuitively analyze the relevant parameters. Visitors to the Siemens booth will have the opportunity to experience all of this in an easily understandable step-by-step demonstration using interactive touchscreens and models.

This background information and further material are available at www.siemens.com/press/hm18

Contact for Business and Financial Media:

Yashar N. Azad

Phone: +49 89 636-37970; E-mail: yashar.azad@siemens.com

Contact for Trade Media:

Stefan Rauscher

Phone: +49 911 895-7952; E-mail: stefan.rauscher@siemens.com

Follow us on **Social Media:**

Twitter: www.twitter.com/MediaServiceInd and www.twitter.com/siemens_press

Blog: <https://blogs.siemens.com/mediaservice-industries-en>

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. With its publicly listed subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2017, which ended on September 30, 2017, Siemens generated revenue of €33.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 377,000 employees worldwide. Further information is available on the Internet at www.siemens.com.