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**Press Release**

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**Process automation at drinktec 2017:**

## **Industry 4.0: Revolution or Evolution?**

**There will be filling and packaging systems as long as matter cannot be transported through the Internet; of course this witty remark by the former Executive Board Member of Kronen AG, Hans-Jürgen Thaus, still applies. Nevertheless, digitalization has long since changed both plant engineering and construction as well as the entire process of brewing and beverage production. In addition, more and not less is destined to follow as the next revolution – Keyword: Industry 4.0. The opportunities that this will provide for the global beverage and liquid food industry will be shown in detail at drinktec 2017 on the Messe München fairgrounds from September 11 to 15, 2017**

Industry 4.0 obviously first raises the question of which three revolutionary or evolutionary steps preceded it? The first was the invention of the steam engine and the resulting possible drive of mechanical equipment. This was followed by the second one, electrical engineering, with which mass production could be increased further. The microprocessor was the third one, which digitalized control and process engineering.

### ■ **Smart Factory: intelligently networked knowledge crystal**

The main difference from 4.0 to this third stage is the consistent application of Internet technologies for communication between people, machines and products. An intelligently networked crystal is being created in all directions and across all boundaries from the hierarchical IT pyramid: from the field level to the

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control and operation level and all the way to the operational and business level. In such a smart factory, machines and systems provide independent information about all major process and system states. They communicate with each other at the same time and intervene in production processes, correcting and optimizing them. Or expressed more simply: The raw material knows what it wants to become. The machines know what they can do and when they have free capacity – and provide their services independently. Of course, everything is done in close coordination with the demand side, which is planned in advance using historical data, current trends and possibly even with intelligent refrigerators and external weather models.

Such an intelligent factory masters complex sequences perfectly, is resistant against downtimes and can always react flexibly to changes in the production process. Thanks to autonomous control of production, failure and downtimes are eliminated, the machines are always used optimally and energy consumption is reduced. Because less waste is produced, the cost of materials also decreases. "At drinktec, solutions for further digitalization of production are therefore sure to be a central topic, precisely because optimized production processes and maximum efficiency in energy and raw materials are a focus of Industry 4.0," Richard Clemens stated, Managing Director of the VDMA professional association Food Processing and Packaging Machinery .

#### ■ A few ideas are already a reality

Some ideas of Industry 4.0 are already a reality: For example, the Augsburg robot manufacturer Kuka builds the body of the Jeep Wrangler for Chrysler in America: in its own factory, with its own robots and its own employees. The automobile manufacturer Chrysler only provides data. Consequently, virtual and real worlds merge through the use of information technology and create a whole new production and business concept.

In the beverage and liquid food industry, components of Industry 4.0 have also long since been employed. Holger Schmidt, Global Industry Manager of Food &

Beverage at Endress +HauserMesstechnikGmbH+Co. KG, stated about this:

"Many devices support this using features such as heartbeat technology, in that they check their functions themselves and actively point out upcoming needs for intervention. The availability of so many signals also allows better linking of batch and process data." Teleservice is also on the agenda here. The adaptation of a palletizing robot to new packaging is carried out in this case by external computer simulation, for example. The final program is then installed over the weekend via the Internet and only minor tweaks are necessary—if at all—at the start of production on Monday morning.

Another essential aspect of Industry 4.0 is customized production. The objective is to comply with all relevant customer requirements at low cost. "It seems like a distant vision," Richard Clemens explained. However, precisely the beverage industry is subject to quickly changing trends. Customized production could be an answer to the ever shorter product life cycles. Until then, however, many development steps and corresponding investments are still needed."

#### ■ **Fill inexpensively – even in batch size 1**

"4.0 RoboFill" could make an important contribution to that. In this research project, a new, flexible automation concept is to enable filling customized beverage bottles and bottling containers inexpensively even in batch size 1. The current project consortium is composed of the Chair of Brewing and Beverage Technology (TUM), Chair of Food Packaging Technology (TUM), Fraunhofer IWU – RMV project group, the Bavarian State Brewery Weihenstephan, Beckhoff Automation GmbH & Co. KG, infoteam Software AG, Krones AG, ProLeiT AG, Siemens AG, Till GmbH, Yaskawa Europe GmbH and the Zimmer Group. By the way: The majority of these institutions and companies will be on hand for direct exchanges of information with trade visitors at drinktec 2017. This bundling of cross-domain expertise makes the world's leading trade fair for the beverage and liquid food industry the "place to be", including for automation and information technology. In a survey of drinktec 2013, 97 percent of trade visitors gave this exhibition area top grades. The supplier side also confirmed this entirely positive

picture: "drinktec is the top international platform to discuss with our two customer groups, beverage producers and the component supplier industry, about the future direction of their automation. As a result, a clear picture can be obtained of the direction in which the use of digital technologies is going," Holger Schmidt of Endres+Hauser said.

#### ■ **RoboFill 4.0: processes plan and optimize themselves ...**

Concretely, 4.0 RoboFill is designed to plan and optimize machines and processes itself in the future. The synchronization of customer requests and production orders as well as the associated production planning and control takes place via a virtual image of the production environment in the cloud. Compared to rigid, prefabricated and controlled filling lines in the beverage industry, it creates highly flexibly operating and intelligent processing stations.

In this way, RoboFill 4.0 will especially provide small and medium businesses a decisive competitive edge over competing producers in the international market. Gunter Walden, Division Head of "Food and Beverage" as well as "Water and Sewage" at Siemens AG, gave a good reason for this: "Brewmasters notice with automation that they suddenly have time to deal with what actually is their passion: devising new recipes." And in fact that is not a virtual, but a very real benefit.

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Additional information about Messe München is available at

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**About drinktec**

drinktec has been held in Munich since its premiere in 1951. A four-year event cycle was introduced in 1985. drinktec is the most important trade fair for the sector. Manufacturers and suppliers from all over the world meet up here with producers and distributors of beverages and liquid foods. All sizes of company are represented at drinktec: global operators and SMEs alike.

The future is mapped out at drinktec. This event is regarded as the number one platform for launching new products on the world market. Here manufacturers present the latest technology for processing, filling and packaging all kinds of beverages and liquid food—raw materials and logistics solutions included. The themes of beverages marketing and packaging design round off the portfolio.

drinktec 2017, which takes place at the Messe München exhibition center in Munich from September 11 to 25, 2017 expects to attract around 1,600 exhibitors and 70,000 visitors. Around two-thirds of the visitors come from outside Germany. drinktec 2017 will take up 14 exhibition halls, covering a total of 150,000 square meters of space.

**About SIMEI**

In 2017, SIMEI, the world's leading exhibition for wine technology, is being held for the first time as an integral part of drinktec. Organized by the Unione Italiana Vini (UIV), SIMEI has a long tradition. It has been held in Milan since 1963. Following an agreement with Messe München, SIMEI will be retaining its two-year cycle, but its venue will alternate between Italy and Munich. At drinktec 2017, on a dedicated SIMEI exhibition space comprising at least 20,000 m<sup>2</sup>, SIMEI will be showcasing all kinds of machinery, technology and equipment for the production and processing of wine, plus also packaging solutions.

## **About Messe München**

Messe München is one of the world's leading trade-show companies. It organizes about 40 trade shows for capital and consumer goods and key high-tech industries in Munich alone. 14 of those events are number 1 in the world in their respective industries. Each year more than 30,000 exhibitors and about two million visitors take part in events held at the Messe München trade-fair center, the ICM – Internationales Congress Center München and the MOC Veranstaltungszentrum München. In addition, Messe München International organizes trade shows in China, India, Turkey and South Africa. Messe München has a global business presence with affiliates in Europe, Asia and Africa and more than 60 foreign representatives serving more than 100 countries.