



**Food Processing &
Packaging Machinery**

drinktec 2017 - Statement VDMA German Engineering Federation

Success Story drinktec – and what's behind it

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VDMA
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VDMA
Technology Serving People

Ladies and Gentlemen,

on behalf of VDMA - the German Engineering Federation - and also in the name of the exhibiting industry, I would like to welcome you to today's press conference. With its more than 3,100 member companies, VDMA is the largest network of the engineering industry in Europe. For many decades VDMA has been partner of the drinktec and has given support to Messe Munich in all questions concerning the machinery industry and its market. Everything you need to know about the internationally leading trade fair drinktec has just been said. I shall therefore focus my speech on three subjects:

1. Main topics and trends at drinktec
2. Development of the international mechanical engineering industry
3. Market prospects for the global beverage and liquid food industry

Every four years, experts from all over the world meet in Munich because they know that this is where they will find the biggest concentration of innovations, applications, and current topics that both inspire the industry and shape its future.

Just the fact that drinktec purely focusses on the areas of beverages and liquid food with 14 halls and more than 150.000 square meters speaks for itself, and shows how important the drinks sector is within the overall global food industry. Let's take a look at some of the relevant figures: in 2015, global drinks sales were worth over 1 trillion, euro. By 2020, spending is expected to have more than doubled (+125%), rising to more than 2.3 trillion euro.

For comparison: in 2015, 2 trillion euro in total was spent globally on packaged foodstuffs, i.e. all products from chocolate to tinned vegetables; this is expected to rise by 50% to 3 trillion euro by 2020.

In other words, the outlook is good for growth in the beverage industry. However, increasing demand and good prospects for growth also mean that companies in the beverage industry are now faced with a multitude of challenges.

The challenges

Attractive industries with great prospects for growth are characterized by extremely intense competition and campaigning for consumers and extreme pricing pressure. This also applies to the beverage industry. Product life cycles are becoming ever shorter. Drinking habits and preferences are changing - above all, in saturated markets. Companies in the industry have to respond to trends fast, constantly developing new products to be successful on the market. High energy costs or fluctuating raw material prices affect the production costs and put pressure on margins. A vast number of laws and regulations, which quite rightly place high demands on manufacturers when it comes to food production, have to be responsively taken into account.

Conflicting priorities therefore make it a complex issue. Success and future viability primarily depend on meeting these challenges, and being creative and efficient.

Technology providers play a key role in all of this, as I will illustrate with a few select topics and examples in the following.

Topics and trends

Product safety and hygienic processing

Hygiene, product safety, and quality have utmost priority in the beverage and food processing industry. There are no compromises. Consumer protection and the right to consistent quality must always be a given. Machines featuring hygienic design are a matter of course in the industry and are constantly being optimized to make them as easy to clean as possible.

However, increasing variety and the consequent frequent change in products often mean there are downtimes for cleaning purposes. CIP processes (Cleaning in Place) – i.e. cleaning without having to dismantle the machine – are being continuously developed to prevent unnecessarily elaborate cleaning processes while still ensuring utmost safety is provided. CIP sensors indicate when cleaning is required; this conserves water, cleaning agents, and energy. In turn, this protects the environment, lowers costs, reduces downtimes, and increases the level of efficiency without compromising safety. Control, monitoring, and inspection measures throughout the entire manufacturing and packaging process provide additional safety. And if necessary, traceability is also possible; the data saved in the control systems and the operating data collection can be used to track the whole process.

Energy and resources efficiency

At drinktec 2017, innovative solutions for increasing energy and resource efficiency will be the leading topic presented throughout the halls. Economical handling of resources such as energy, water, and raw materials offers the beverage and liquid food industry the chance of making considerable potential savings in costs. Commitment to acting responsibly is also good for a brand's image, and in terms of cost-effectiveness, simply logical. Waste is not an option in the modern world.

And why should it be? There are numerous technical solutions already available that help to use or even save energy, water, and raw materials effectively and efficiently. Energy efficient drives, optimized use of compressed air, less water consumption in the production of drinks, water recycling, use of process heat - all of this and more has a positive effect on the energy balance while also reducing production costs.

Using less material for packaging is priority: whether using glass, tins, or PET, everything is getting lighter. A lot is happening with PET; the real trend at the moment is light weighting, i.e. containers weighing less than 10 grams each are gaining ground, just like the use of recycled PET for new bottles (bottle-to-bottle).

Let's return to the resource of water for a moment.

Water is the essential basic ingredient for the beverage and food processing industry and breweries. But that is just one aspect. Water serves many other functions in production, whether it is used as process water, energy source, or for cleaning processes. We are far from being in a situation where efficient resource and energy management has been implemented across the board in beverage and food processing companies. Not in Germany, nor in any other market in the world.

At drinktec 2017, we will be paying special attention to the resource water. Our aim is to highlight the issues of water treatment and water recycling, through to disposal, but also emphasize the part hygienic design plays in reducing water consumption. At the VDMA trade

fair stand in hall B3, we will be offering presentations, case studies and opportunities to exchange experiences especially for the target group of energy managers or energy officers from beverage and food companies.

Flexibility

Flexibility is the technical answer to fast changing trends. Process engineering is at the heart of beverage production. It has to be flexible and be able to be designed for different options. New recipes in terms of flavour or added value for health require modifications to the processing chain. Temperatures or metering processes have to be adjusted. Additional containers of concentrates or alternative raw materials are often needed. Modular machines help to quickly integrate the required additional equipment.

Automatic recipe management with continuous flow of information and connection to the control system provides for highly automated production processes, regardless of which ingredients are used for which product.

After process technology comes filling and packaging: The champions of flexibility are stretch blow moulding machines for PET containers: roughly 60% of soft drinks sold globally come in PET bottles in the most diverse shapes, designs, and sizes. Stretch blow moulding machines enable the production of different formats on one single system with short set-up times. This diversity will continue to increase; stability and handling considerations aside, creativity knows no bounds.

Process optimization

Process optimization is an ongoing issue and there are many approaches. Companies from the beverage industry are able to save time, resources, and money with perfectly coordinated production processes. This also applies to existing systems. The overall equipment effectiveness (OEE) is increasingly the focus, also for new acquisitions. Exhibitors at drinktec, especially software providers, present customized solutions for production management and help to optimize production processes. Condition monitoring identifies anomalies and makes sure that action is taken in good time to prevent major losses or downtimes occurring in the first place. Solutions for minimizing organizational losses, such as set-up, maintenance, cleaning, and product change are the lever for keeping quality time – that means production time - as long as possible; in this case, there is also hidden potential to be explored.

Robotic and automation applications for secondary packaging through to sophisticated intralogistics solutions ensure improved processes. There are much more solutions for process optimization at drinktec.

Process optimization in all its guises is the precursor, the preparatory step, and at the same time the focus of the up and coming topic of Industrie 4.0 or Internet of Things. This is a significant topic worldwide.

Internet of Things (Industrie 4.0)

Industrie 4.0 or IoT (Internet of Things) is preoccupying nearly all producing industries at the moment. The digitalization of production, the networking of components, machines and systems via the internet is steaming ahead.

The focus of Industrie 4.0 is optimized production processes and utmost efficiency – particularly where the use of energy and raw materials are concerned. The main factors are software, sensors, data, networking, and intelligent components with embedded systems - high-performance, compact computers which organize production independently. The factory of the future will be intelligent.

Even if many are talking about an industrial revolution, Industrie 4.0 is more of an evolutionary process. Significant aspects of Industrie 4.0 have already become reality.

Machines are equipped with sensors, radio modules, and measuring instruments; their data helps to monitor and control the production processes.

Translated into Industrie 4.0 terms this means: intelligent sensors wirelessly transmit measurement data about a machine's status via an app. This not only makes maintenance work easier to schedule, but can also be initiated from anywhere.

A major aspect of Industrie 4.0 is individualized production through to batch size 1. The aim is to meet individual customer requirements at a low cost.

One thing you can be sure of: At drinktec, many exhibitors will be showing the first approaches to Industrie 4.0 solutions for the beverage industry.

Machinery trade

That was just a snippet of the numerous topics that the innovative technologies offered at drinktec 2017 will cover. Mechanical engineering provides solutions for any challenges facing your customer industries. This is why dialogue between the sectors is so important and drinktec therefore offers the perfect platform.

The use of technology and automation of the global beverage industry is making headway.

That is a fact and can best be illustrated by taking a look at international trade. Why is that?

Firstly, there are no reliable figures available for global machine production, as not all countries record machine production every year, not to mention, in the same way. Secondly, machine export data can be compared, as it is collected in every country by the custom authorities according to an established product nomenclature.

Furthermore, export data also indirectly contains other information about the level of development on both the part of the supplier and customer: companies can only export successfully if a certain technological level has been reached. From the perspective of the sales markets, the demand for imported machines indicates increasing use of technology in production and is therefore an indicator of the level of development of the respective beverage industry. This takes us back to drinktec yet again, where visitors will experience the entire range of technology available. Now, to the facts and figures:

In 2015, international demand for food processing machinery and packaging machines rose 6 percent to a value of 38 billion euro. In other words, machine trading has increased by 52 percent in the space of 10 years. Hardly any other segment in international mechanical engineering is able to look back on a similarly dynamic trend.

Around one third of the 38 billion strong global trading volume was supplied to the beverage and liquid food industry in 2015. This does not include the machines and components statistically allocated to other sectors; for example, stretch blow moulding machines for PET bottles, heat exchangers, pumps, logistics solutions, or automation components.

The entire investments of the beverage and liquid food industry are surely even higher, as the overall demand also includes the machines procured in the respective local market.

In 2015, 40 percent of globally exported food processing machinery and packaging machines were delivered to countries in Europe, 31 percent of which in the European Union. The second most important sales region is now Asia with a share of 22 per cent. North America is next with 13 percent, Latin America with 10, Africa with 8, and the Middle East region with 5 percent.

The level of investment in strong industrial countries is high, but the more dynamic boost in demand comes from the non-European markets.

The significance of the individual sales regions has shifted in recent years in favour of Asia and Latin America. The VDMA expects that this shift will be successively ongoing, as the significance of the individual markets in Asia, Latin America and also in Africa will continue to increase in future.

The list of top 10 sales markets was once again headed by the USA in 2015 as in most of the previous years. However, the top 10 markets also include China, Russia, Mexico, and Indonesia. Increasing boosts in demand in 2015 also came from Brazil, Iran, the Republic of South Africa, Nigeria, India, and Thailand. All in all, machines for manufacturing and packaging drinks and food were sold in more than 100 countries.

With an average export rate of 87 percent and a share of 21 percent (2015) in the global trade volume, German companies are the global leaders in food processing and packaging machinery construction.

In individual sub-sectors, particularly in those areas relevant for drinktec, the German manufacturers' shares in international trade are significantly higher: for example, they supply half of the globally exported brewing machines and 30 percent of packaging machines.

After Germany, Italy is the most important supply country for food processing machinery and packaging machines. There is then a larger gap followed by the USA, China, the Netherlands, Switzerland, France, and Japan with shares in international trade at between 8 and 4 percent.

The top supply countries given here should also be represented amongst the largest exhibiting countries at drinktec. Companies from around 80 nations will be participating in Munich in 2017 in order to show their solutions and innovations to the international experts.

The prospects for suppliers to the beverage and food processing industry are looking good: the world population is growing, sales of drinks and food are on the increase, as illustrated at the beginning, and in aspiring economies, in particular, there is a pent-up demand for consumer spending.

The beverage markets

Soft drinks

In 2015, 668 billion litres of soft drinks were consumed; a further increase of 18% to 790 billion litres is expected by 2020. In 2015, significantly more than 50% of total sales had already occurred in the regions of Asia, Latin America, Africa/Middle East.

Further growth will also take place primarily in the highly populated countries and regions which currently have low consumption per head.

In the industrial countries, the more saturated markets of Western Europe or North America, the growth rates are considerably lower. Here, the priority is an increase in quality.

Bottled water with a share of 46% (2015) is by far the strongest category. High growth rates are still to be expected; in fact, growth of 28% by 2020, making it twice as much as all other soft drink sectors put together.

Carbonates: the second largest category with a share of over 30% is expected to grow 6%. Modern, trendy products such as sports and energy drinks or RTD tea, for example, will clearly increase to double-figure sales, but still based on a low level.

Alcoholic drinks

In the case of alcoholic drinks, total consumption is around 248 billion litres, the lion's share of almost 80% being for beer. A total increase of 9% is expected for alcoholic drinks. Beer consumption at plus 8% is slightly lower. Double-figure growth rates relate to spirits (+10%) and premixes (+17%); wine consumption will increase globally by 13%. Growth has been and still is driven by the increase in sales in Asia, Latin America, and Africa/Middle East. Western Europe and North America are saturated markets where consumption per head is already high. Stagnation in Eastern Europe is down to the tense economic situation, primarily in Russia.

Drinking milk products

At drinktec, the topic of drinking milk products is gaining significance. In 2015, nearly 240 million tonnes of drinking milk products were globally consumed; by 2020, sales are expected to rise another 9%. Drinking milk products are popular and consumption has continued to grow for years. Like hardly any other foodstuff, the consumption of milk is closely linked to the economic development and change in eating habits in a country. It is no surprise that Asia has significantly advanced global growth, in fact, between 2010 and 2015 sales increased by 30 percent. Ongoing demand is also driven by the strong impetus coming from Asia, in this case, especially from China.

The Middle East Africa region shows the highest growth rate, but the consumption rate for drinking milk products is relatively low. This is partly to do with climatic conditions. Milk powder is preferred in many African countries.

To conclude: Consumption is on the increase, in all sectors. This will significantly affect machine trading in the coming years. At drinktec in Munich, the largest global platform with the highest concentration of experts, the machinery manufacturers offer innovative solutions for the diverse requirements of the beverages and liquid food industry, for every size of company and all performance groups.

VDMA – The German Engineering Federation

The VDMA based in Frankfurt am Main represents the interests of almost 3.200 companies in the capital goods industry and is thus the largest industry association in Europe. With a turnover of roughly 220 billion Euro (2015), it is one of the leading industry sectors in Germany and the largest industrial employer with a workforce of more than 1.000.000.

The VDMA Food Processing and Packaging Machinery Association represents the largest group of exhibitors at drinktec.

As the conceptual sponsor of drinktec the association supports Messe München in all questions concerning the machinery industry and its markets.