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#anugafoodtec

Anuga FoodTec 2024: Productivity at a high level

++ Artificial intelligence and smart sensors ++ Robots are pushing the digital transformation in the food industry forward ++

The technology suppliers will demonstrate how artificial intelligence and smart sensors can increase the possibilities of implementing robots at Anuga FoodTec from 19 to 22 March 2024. The trade fair that is staged in Cologne presents a comprehensive offer and holistic solutions, which will support food producers of every size and industry in pushing their automation forward. The exhibitors at the fair grounds are offering an extensive portfolio of robots that can be operated increasingly more simply and intuitively - turning them into reliable employees for the everyday work routine.

The largest fields of business for robot manufacturers are traditionally the electronic and automobile industries. However, Anuga FoodTec 2024 is demonstrating that the food industry has developed into one of the most important and interesting growth markets. According to figures of the International Federation of Robotics, IFR, over 90,000 robots were employed in companies of the industry in 2020 worldwide. Most of which are located in the European Union (37 percent), followed by China and the USA (19% respectively).

The implementation of robots has long since not been limited down to large companies. Since they carry out repetitive and physically strenuous work with an increased risk of injury, they are also very popular among small and medium-sized food producers. Food manufacturers, who are investing in robots for the first time or who want to identify new fields of application, will find easy-to-use concepts at the fair grounds in Cologne, which reduce the integration costs and automation hurdles. Functions like brake energy recovery and power saving modes reduce the energy consumption by up to 20 percent and contribute towards an improved sustainability. The exhibitors offer tailor-made programming tools for all possible users. This begins with hand-led teaching, carries on with the implementation of pre-fabricated modular components and ends with high-performance programming environments for the development of demanding applications.

Specialists in grasping

Whereas in the past primarily tasks such as palletising and depalletising as well as secondary packaging dominated the tasks, today robots are implemented across the entire value chain - from the delivery of raw products, to the production, through to the intralogistics. Many of the technology suppliers, who exhibit at Anuga FoodTec have already been carrying out end-of-line palletising successfully using articulated robots for some time and are represented with a wide offer of palletising applications, including for example special versions for cold storage facilities. Thanks to simulation software users can adapt the palletising with regards to the



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box measurements, weights and pallet samples at any time. The exhibitors will demonstrate what the four and six axes robots can do with their multifunctional grippers at the fair grounds in close-to-reality demo cells.

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In addition to this there are image processing-controlled pick-and-place robots. They are considered to be the fastest-growing robot segment in the food industry. Whereas many steps were carried out manually in the past, packing lines are totally automated today. Grippers and vacuums that are easy to change over offer a range of products and formats. This is based on a plug-and-play philosophy that enables the robot tools and format parts to be exchanged in a few easy steps and without having in-depth knowledge of the machine. Up to 50 formats and more are possible on a modern picker line. And last, but not least the Scara, articulated or delta kinematics offer decisive hygiene advantages as well, because they reduce the risk of contamination when handling food such as fish fingers, cheese sticks or burger patties. There is frequently only one point of contact with the product: the vacuum gripper which is easy to clean. The packed food and the packaging material itself such as cardboard or foil can also be handled using robots.

Fit for implementation in the hygiene section

In the areas that come into contact with the product it is predominantly the intensive cleaning processes that have to be carried out several times a day that make the implementation of conventional robots impossible in the food industry. To fulfil the high hygiene standards, grippers, robots and accessories have to satisfy special demands. The latest reference models of the technology suppliers underscore what robot-friendly hygienic design looks like today: Thanks to stainless steel executions or special finishes, the use of FDA-certified parts, interior media and supply cables and the protection class IP69, even if exposed to extremely wet conditions the robots don't need any additional protective covers. Being sprayed down with hot water, lathered down with cleaning chemicals and scrubbed manually is no problem for them.

Hygienic design not only refers to the surfaces, but also to the lubricants implemented. That means: If the lubricant from the robot comes into contact with the food, for instance in case of a fault or through oil vapour escaping, it is not allowed to be detrimental to the consumers' health. All axes are thus equipped with food-grade NSF-H1 lubricants. Even when these special lubricants are used the manufacturers guarantee the full performance capacity of their robots.

Cobots allow new options

The latest progress in the field of artificial intelligence (AI) enables autonomous gripping and positioning, which greatly expands the range of tasks robots will be able to carry out in future. Collaborative robots, known as cobots, will take on a key role here. Ten percent of the new robots sold are meanwhile cobots. Able to bear increasingly higher loads, they can be safely implemented next to human employees - without bulky casing and safety fencing. The fast reaction times, touch-sensitive surfaces and integrated safety functions make this possible. As soon as the sensors and cameras detect a person in the working area, the software automatically slows the robot down or stops it completely. Once the person moves away, the robot carries on with its work at the normal speed. Food manufacturers can find both

stationary and mobile cobots that cover a host of application scenarios at Anuga FoodTec. Experts see a potentially huge and fast-growing market for AI-controlled applications for the automation of warehouses. Machine learning is the key for more efficiency in the order picking sector. For example, robots will make it possible to take the adequate, respective decision for every situation within the supply chain within the shortest space of time.

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Especially for small and medium-sized food manufacturers, the versatility of the cobots opens up new options of automating their processes flexibly and raising them up to a higher level step-by-step. Placed totally according to need and the situation at hand, the lightweight robots can be continually implemented in different places to keep the production going or to fill in for absent staff - for example for the automatic decoration of bakery products or at the end of the line to pick seasonal items that come in different flavours.

Organised by Koelnmesse, Anuga FoodTec is placing the emphasis on the key theme Responsibility. The professional and industry sponsor is the DLG, the German Agricultural Society.

Koelnmesse - industry trade fairs for the food technology sector: Koelnmesse is an international leader in organising trade fairs in the field of food and beverage processing. Anuga FoodTec and ProSweets Cologne are established, world-leading trade fairs, hosted in Cologne/Germany. In addition to the events at its Cologne headquarters, Koelnmesse also stages further food technology trade fairs with different sector-specific areas of focus and content in key markets across the world, including India, Italy and Colombia. These global activities enable Koelnmesse to offer its customers bespoke events and leading regional trade fairs in a variety of markets, thus creating the foundation for sustainable international business. Koelnmesse is also ideally positioned in the field of food and beverages with its leading international trade fairs Anuga and ISM and its global network of satellite events.

The next events:

Cibus Tec - Inspiring Innovation in Food and Beverage Technologies, Parma 24.10. - 27.10.2023

Andina Pack - International Processing and Packaging Exhibition for the Food, Pharma and Cosmetic Industry, Bogotá 27.11. - 30.11.2023

ProSweets Cologne - The international supplier fair for the sweets and snacks industry, Cologne 28.01. - 31.01.2024

Note for editorial offices:

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