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#prosweetscologne #sweetweekcologne

More performance with Artificial Intelligence: Smart technologies accompany advancing digitalisation and automation in the production of sweets and snacks

**In 2026, exhibitors present future-compatible AI solutions at
ProSweets Cologne +++ 2D and 3D vision sensors on the advance**

In past years, we have seen the arrival of ever-new catchphrases for the description of digitalisation: Big Data, Cloud, Artificial Intelligence or smart sensors are terms often used in this context. To what extent do the technologies behind them define the processes in the sweets and snacks industry? ProSweets Cologne provides answers to this question and will show where AI-based automation and data-driven quality assurance make a difference from 1 to 4 February 2026.

The manufacturers of sweets and snacks are facing a variety of challenges. New packaging lines must be quickly ready to operate so that production schedules can be maintained. At the same time, the output quantities must be achieved stably, and overall system effectiveness must be permanently assured, without malfunctions or down times. This is joined by the necessity to be able to adapt at all times to market requirements and consumer wishes, because, whether fruity, salty, soft or crunchy: variety at the point of sale is increasing - and not only for the products themselves. From the family pack with a mixed assortment through the practical snack package for on the go to exclusive limited editions, consumers expect a large number of variants and options for personalisation.

Mechanical engineering meets Big Data in Cologne

The consequence: systems must be retooled more often. Efficiency, high machine availability as well as easy operation are at the fore for the development of systems. "Called for are highly flexible solutions that allow easy and quick format changes and are subsequently quickly ready to use again. Those who modernise and have no fear of new technologies remain competitive", says Guido Hentschke, Director of ISM Ingredients and ProSweets Cologne.

With their numerous sensors and actuators, the systems in the sweets and snacks industry have long been highly automated, but not consistently data-supported. The producing companies require solutions that prepare enormous quantities of in some cases unused data for process optimisations. These can be found on the Cologne fair grounds. As a first step in the direction of the digital transformation, the technology providers are integrating intelligent sensors into the existing systems and configuring them so they can communicate with the Cloud. "Smart" sensors, with their integrated microprocessor, in addition to purely recording physical measured values,



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also carry out signal preparation tasks. They in this way allow reliable forecasts concerning the operating conditions of the systems, which in turn offers further possibilities for the improvement of overall equipment effectiveness (OEE).

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Generative copilots for operation

In addition to continuous monitoring, the manufacturers of sweets and snacks can query their production and packaging systems via AI-supported assistants. The generative chatbots, which interact with a knowledge database, provide immediate answers to all operations questions. The basis of data, constantly growing through machine learning, can provide assistance in communication with the machines and contribute to the optimisation of production efficiency. The assistants can help automate routine tasks. In combination with guided format changes, companies in this way establish efficient processes, in which every step is verified. Production interruptions due to false format parts can be eliminated.

The sensors don't always have to be installed statically and directly in the systems. Common polycarbonate moulds that pass through a chocolate system equipped with measurement technology can examine areas that are difficult to see, such as refrigerators, shaping stations and vibration. Mechanical influence parameters and temperatures can thus be monitored in real time. The sensors recognise, for example, transitions with non-parallel chains in a casting system in that the mould revolves around the vertical axis. Errors can in this way be detected early on, making it possible to initiate targeted measures before malfunctions occur.

Sensors with integrated intelligence

Smart sensors represent a perfect basis for the implementation of Artificial Intelligence for making data-based decisions. "AI and machine learning are high-performance technologies with the potential to enduringly change the manufacture of sweets and snacks. Even today, the systems act increasingly proactively, with the goal of improving quality standards and deploying resources more efficiently", Guido Hentschke emphasises. Against this background, image-processing 2D and 3D vision sensors are currently on the march throughout the food industry. They guarantee that other products, different formats or new packaging tasks can be processed without additional effort on the same system.

The right product handling also makes a difference. Using AI-based image recognition, robots recognise different objects and reliably master the "grasp into disorder". Behind this is sophisticated vision technology combined with five or six-axis pick-and-place kinematics. Evenly arranged in the tray or flow bag, the cookies or crackers already convince with their quality and optimal presentation when the package is opened. The bandwidth of possible deployment areas for systems of this kind knows no bounds. The trade visitors of ProSweets Cologne can convince themselves of the advantages of new systems during live demonstrations at the stands.

Recognising foreign bodies in real time

In addition to high-performance pick-and-place applications, AI-supported vision sensors are in the meantime also a fixed element of quality assurance. They can classify gummi bears, bonbons or chocolates according to defined criteria as well as

check portions and packages for the correct content and quantity. Progressive systems thereby rely on multispectral imaging. They recognise the chemical composition of foreign bodies in real time and identify glass and metal fragments or plastic particles in food products and packaging where this has to date not been possible. They can also sort out defective products like crumbled cookies or waffles with incorrect chocolate coatings - and that with a precision surpassing that of even the most experienced quality tester.

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Deep learning-supported algorithms not only make a decisive contribution to increasing line efficiency. They can also be deployed in the context of automatic classification of raw materials, for example, for determining the quality of cacao beans. Through the provision of image material, the software can recognise defects like insect infestation or mould and determine the degree of fermentation using a colour schematic. This makes it possible to undertake targeted measures for the preservation of the characteristic chocolate flavour.

Responses to the challenges of tomorrow

Visitors can find out what role AI already plays in the optimisation of production processes today and what this means for the future from 1 to 4 February 2026 at ProSweets Cologne. The international trade fair for suppliers of the sweets and snacks industry, which takes place parallel with ISM and ISM Ingredients in Cologne, in this way also wants to provide answers to two further challenges facing the industry: the acute lack of skilled workers and increasing cost pressures.

Beyond this, the accompanying event programme addresses the major future themes of the industry and offers practical insights and impulses for manufacturers and suppliers. The focus here is on:

- **Technological innovations:** how sustainable and AI-supported solutions can make processes more efficient and future-proof.
- **Innovative ingredients and processing technologies:** new approaches that help sweets manufacturers make products healthier, more attractive and more marketable.
- **Global crises as a challenge:** from supply chain resilience to geopolitical uncertainties - strategies for allowing companies to remain resilient.
- **Sustainable packaging:** materials and concepts that combine environmental friendliness with functionality.
- **Retail experience:** how packaging at the POS becomes a brand experience and influences purchasing decisions.
- **Focus on shelf marketing:** why packaging builds a bridge between brand, marketing and people, today more than ever.

In this way, ProSweets Cologne 2026 positions itself not only as an international industry platform, but also as a provider of impulses for answers to the most urgent questions of tomorrow.

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.

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Further information: <https://www.prosweets.com/fair/industry-sectors>

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