Press release

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ISM Manufacturing: less packaging, full performance

Package recycling-compatible and save material +++ Exhibitors of ISM Manufacturing 2027 show new sealing technology and retrofit solutions

The PPWR is challenging the packaging lines of the sweets and snacks industry: mono-material films and paper-based packaging materials call for adapted processes so that sensitive products can also be reliably packaged at high cycle speeds. How mechanical engineering will react to this and make existing systems fit for new materials will be shown by ISM Manufacturing from 31 January to 3 February 2027 in Cologne.

Whether chocolate bars, fruit gum or potato chips: your packaging must in future not only protect the product but also be recyclable and function with as little material as possible. The legal framework is provided by the European packaging regulation (Packaging and Packaging Waste Regulation, PPWR) in force since August 2026. As of 2030, stricter provisions for recyclability and packaging minimisation will become applicable in stages. Minimum recycling ratios will also become mandatory for certain plastic packaging.

Recyclable is not enough on its own
"It's not enough for the sweets and snacks industry to simply change the packaging material“, explains Guido Hentschke, Director ISM Ingredients, ISM Manufacturing and ISM Snacks & Sweets. "Paper-based materials and mono-material films behave differently when forming, conducting and sealing than conventional composite films. At the same time, the packaging must fulfil its protective function – against moisture, oxygen, light and mechanical stresses.“

At high speeds and with changing product formats, even small differences in the material properties can influence the packaging process. The focus thus shifts to mechanical engineering: in addition to new technical developments, targeted adaption and the retrofitting of existing systems are increasing in importance. The exhibitors of ISM Manufacturing 2027 in Cologne show how these requirements can be realised in practice. Under the key theme "Connecting the Entire Value Chain", the ISM trade fair trio, consisting of ISM Ingredients, ISM Manufacturing and ISM Snacks & Sweets, thus connects the various stages along the value creation chain.

New requirements for sealing technology
In the case of cold sealing, suitable barrier papers in the meantime complement the established mono-material films. For horizontal flow bag machines, Syntegon offers a retrofit solution with its paper-ON-form system. It consists of a specially

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developed mould unit and sealing tools coordinated for paper. This makes it possible to process suitable barrier papers without having to dispense with conventional films.

"Mono-films or paper-based solutions are increasingly being used for flow bags for chocolate and protein bars. The barrier effect and seam imperviousness must thereby also be ensured at high packaging speeds. This is because only when such packaging materials can be industrially processed reliably and efficiently can they also establish themselves at a large scale“, says Markus Rustler, Managing Director of Theegarten-Pactec. In the case of heat sealing, the thermal process window of these materials is often narrower than for conventional multi-layer composite films. Temperature, contact pressure and sealing time must therefore be precisely coordinated with one another.

Machinability put to the test
Adaptive control and sealing systems ensure additional process security: concurrent transverse sealing units maintain a constant sealing time with fluctuating system speeds, variable heating elements control the heat input and automatic width corrections stabilise the film progression. With suitable packaging materials, ultrasound sealing systems can also extrude product residue from the seam areas and thus reduce the risk of packaging leaks. Mechanical engineers test whether new packaging materials can be processed on existing systems together with manufacturers of food and packaging materials under conditions close to those of production. They thereby define suitable sealing parameters and possible performance limitations.

The Packaging Competence Center (PCC) of Gerhard Schubert GmbH, established at the beginning of 2025, examines how recyclability, product protection and mechanical processibility can be harmonised for the development of new packaging. "The EU Regulation calls for close cooperation between various participants, from the packaging mechanical engineer to the recycler and material suppliers“, explains Michael Graf, head of the PCC. In the technical centre in Crailsheim, Schubert tests new packaging materials for sealability, mouldability and machinability. The results provide the foundation for possible adjustments to forming shoulders and sealing tools.

High numbers of cycles, coordinated processes
Theegarten-Pactec introduced the FPC6 flow bag machine in 2026 for high packaging performances with recycling-compatible packaging materials. An integrated preheating unit enables the processing of sensitive materials like paper and recyclable mono-films. Various sealing processes are available depending upon the packaging material. Recipe administration and a transverse sealing unit that can be exchanged without tools ease format changes. The so-called Flying Splice ensures a roll change without speed reduction – even with packaging material speeds of up to 150 metres per minute. Width edge progression and film tension can be adapted via the control panel to various material properties.

LoeschPack and Hastamat have developed an integrated system line for sweets and snacks that extends from the product feed through flow bag packaging to secondary

packaging. The heart of the system is formed by the horizontal FHW-S flow bag machine from LoeschPack and the block-bottom bag machine KBM from Hastamat. The FHW-S also processes paper-based packaging materials and possesses optimised film width control and flexible sealing processes. Hastamat takes over the pre-packaged products after the flow bag packaging. The CP14 multi-head weigher weighs and counts them before they are filled into block-bottom bags. The coordinated machines thus enable the processing of recyclable materials over several packaging steps.

Save material, close cycles
In addition to recyclability, the PPWR shifts the focus to minimising packaging. As of 2030, weight and volume must be reduced to the amount necessary for the packaging function. For the sweets and snacks industry, this allows for economic advantages through lower material, transport and disposal costs. Savings potential also arises from optimised folding techniques, precise carton blanks and paper-based bundle packaging. Functional barrier paper can replace multi-element packaging constructions and reduce packaging weight as a result. Carton quality levels with lower area grammage enable further savings. Of decisive importance remain protection from humidity and grease, mechanical stability and reliable processing on packaging machines.

The practical implementation of the PPWR and circular value creation in the sweets industry are themes of the trade programme of ISM Manufacturing 2027. Corresponding approaches will be discussed on the Talks & Tasting Stage in Hall 5.2. "For the manufacturers of sweets and snacks, of decisive importance is to not only fulfil the new requirements but also to implement them economically in production. The innovation leaders deliver the technical answers for this on the Cologne fair grounds“, Guido Hentschke emphasises.

Further information is available at: www.ism-cologne.com/trade-fair/ism-manufacturing/

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, ISM Manufacturing (formerly ProSweets Cologne) and ISM Ingredients 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 Brazil, Colombia, India and Italy. 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 27.10. - 30.10.2026
ISM Middle East - The Heart of Sweets and Snacks in the Middle East, Dubai 03.11. -

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