

Q&A: Streamlined Packing Designs

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Bosch Packaging Systems, a Bosch Packaging Technology company, has injected over 100 years of industry experience into their advanced packaging lines with a unique, uniform design principle. The recent fruits of their single design philosophy were formally unveiled last year. To find out more, we spoke with Detlef Gottstein, the responsible product manager from Bosch Packaging Systems, and the company's consultant Prof. Sigmar Willnauer, an expert in Industrial Design. Prof. Willnauer currently teaches product design at the University of Applied Sciences Schwäbisch Gmünd, Germany, and has previously designed products for Apple and others. He also founded and ran a product development and distribution firm with its own furniture and lighting program in the United States.

You have been working together on a pilot project to apply an overarching design philosophy to the latest Bosch Packaging Systems technologies. Can you tell us a bit about the background of this project? What were the reasons for the collaboration?

Gottstein - Prof. Willnauer has collaborated with Bosch Packaging Technology for the past seven years to work towards a more unified, streamlined design across the company. Bosch Packaging Systems took this initiative one step further by putting its uniform design project into action in 2010, and from the start we had a very clear idea of what we wanted to achieve. The premise of the pilot project was to develop a new, specialized system for the packaging of bars from scratch. By establishing a single design philosophy across the new bar line, we knew it would be possible to provide real added value to our customers through a more streamlined, harmonious production process. We wanted to provide one look, one feel so that the entire line can be operated as one, rather than a combination of separate entities.

Prof. Willnauer - The idea of 'one design' has been absolutely fundamental to our efforts from the very beginning. The key for us was to develop lines that would give the customer flexibility and choice, while at the same time providing a harmonious, clear, and efficient framework that can adapt smoothly to individual demands.

We knew that this idea of one design, one feel across all design components of the new bar line would enable us to eliminate bottlenecks from our production line through smoother interfaces, easier operation, and better access to all components. At the same time we have been able to implement consistently high safety standards and ensure high hygiene standards across the entire line. The

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standardization of operating software and equipment also enables intuitive operation and reduces the potential for operator errors.

How did you come to this idea, and how has it been reflected in your design strategy?

Gottstein - Across companies in the food and pharmaceutical industries, whoever we spoke to, we heard the same, recurrent demands for simplicity and straightforwardness in design. We saw instances where more than ten different operating panels were incorporated in a single line, leaving operators completely overwhelmed. Equally, we often heard customers say that components just didn't 'feel' right, for reasons they couldn't quite express. It was the job of Prof. Willnauer and our engineers to define these subconscious reactions and develop solutions that did 'feel right.'

Prof. Willnauer - We really wanted to drill down to the core of what makes an efficient, simple packaging line. Drawing on our combined industry experience, it became very clear that the best way to achieve our goal of a more harmonized line was to align design more closely with functionality. This ethos of lean, functional design focuses on a number of key areas: reduction of downtime; hygiene; practicality; ease of operation; and minimization of potential for operator errors.

Combined with the consistent feel of standardized components, we have been able to design packaging equipment that does not overcomplicate matters, or gloss over inefficiencies with aesthetic frills. Throughout development of our new technologies, we have adhered to stringent design guidelines. Similarly, existing machinery has been updated and elevated to the same level as new designs.

Tell me more about the implementation of your standardized designs. What are the specific ways in which they benefit your customers?

Prof. Willnauer - Firstly, they enable our customers to make significant cost savings. By its very nature, standardization means that fewer parts are needed in the line, reducing financial outlay and simplifying maintenance (hence boosting Overall Equipment Effectiveness, or OEE). Also, standardization minimizes downtime required for changeovers, line adjustments, and cleaning - cutting costs by increasing throughput and production capacity.

Standardization does not just bolster productivity, it engenders huge improvements in safety and hygiene. In our bar line, parts are easy to disassemble and clean, and our functional approach manifests itself in the robust, safe design of, for example, machine panels.

By following the principles of lean design, we streamline the entire packaging process, making the line far easier for operators to set up and tweak. A single software platform and standardized interfaces only add to this. As every component looks, feels, and works in the same way, operators really feel comfortable with the equipment.

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Gottstein - It is very important for us to develop technologies that are long-lasting, and which allow the high level of flexibility that is so important for modern-day manufacturers. While the purpose and function of our design is always clear, packaging lines can be customized and adapted with close precision. It is vital that our customers have this freedom to maneuver in rapidly evolving markets. In our new bar line project, we have eliminated major bottlenecks and causes of downtime from the outset by applying a robust, product-specific design and reliable, fool-proof operating processes. This allows for easy handling and operation and ensures consistently high output with minimal disruption by personnel fluctuation or training.

Finally, how are your customers reacting to the new designs?

Gottstein - We have had really enthusiastic feedback. Once they see the extent to which our designs improve packaging line performance, such as the significant reductions in downtime, customers are quickly convinced of the benefits of our approach. Our functional design offers serious value for money and we are convinced that this approach will lead the future of packaging systems. Based on this initial success, we have now, for the first time, developed an entire system using this strategy of symmetry and simplicity.

Prof. Willnauer - We're tremendously pleased with the reaction so far. Customers are impressed by the attention to detail we show. Within Bosch Packaging Systems, the reaction has been enormously positive. There is a growing realization of the opportunities brought about by the new guidelines. There is no need to make rules for every detail anymore, which allows engineers the freedom to expand their levels of knowledge and expertise to provide solutions of real value.

For more information, please visit www.boschpackaging.com [2].

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