

A report by  
**Daniel Brunton**

**N**estled in the small rural community of Ploessberg in Bavaria, southern Germany, Liebensteiner Kartonagenwerk GmbH is a family owned sheet plant. Current Managing Director, Bernhard Schön, is the third generation to run the business — his wife and children are also part of the management team.

Established in 1948, the company produced wooden chip packaging materials, specifically for the local chinaware industries. Such companies as Rosenthal, Hutschenreuther or Nachtmann utilised Liebensteiner's wooden chips for protecting products in transit for many years. It was not until 1968 that the company first ventured into corrugated. Being run by the second generation, the

company bought a couple of basic converting machines, and with two employees, started making transit cases from corrugated board in a small factory only 200sqm in size.

In 1978, Bernhard Schön took over the business from his father, and so began an impressive series of investments resulting in significant growth. In 1983 a new factory was built — to house its first in-line flexo folder gluer. In 1990, additional factory space was built, taking the production area to 5,000sqm. In 1999, an automated high-rack storage system was installed, primarily to hold large stocks of sheet board, prior to converting. "The concept of just-in-time was perfected," explains Mr Schön. "As one of the first companies in the European industry to do so, we invested heavily in 'intralogistics' so as to stand out from the crowd." The warehouse system could hold 12,100 pallet loads at one time, where contract-ordered goods were stored.

In 2002, almost every single converting machine was replaced and in 2004, another high rack system was installed, offering storage for a further 9,000 pallets.

# A JUMBO €50 MILLION INVESTMENT



**ADDITIONAL FACTORY SPACE,  
NEW MACHINES AND A COMPLETE  
AUTOMATED STORAGE WAREHOUSE  
FOR LIEBENSTEINER KARTONAGEN SECURES  
FAMILY COMPANY'S POSITION AS A LEADING  
SPECIALIST SHEET PLANT IN SOUTHERN GERMANY.**

## €50 MILLION INVESTMENT

The most significant investment plan started in early 2009. With a small project team consisting of the Schön family and the plant manager, the company embarked on an ambitious €50 million investment plan that would see the building of a 34,000sqm factory, an additional 36,000 fully automatic pallet storage system, a range of new converting machines and a complete materials handling system and die storage system. The reason this investment was ambitious is that at that time the company's annual sales turnover was only €27 million!

"When you look at the initial numbers, you might think we were being a little crazy with this plan, but the reality is that we simply wanted to secure our position in the market and ensure that the business was safe for the next generation," explains Mr Schön. "We have always believed in the principle of having the best machinery and services available to allow us to convert a diverse range of packaging products for our customers, and the most recent investment means we stay ahead of the market."

*THE MOST SIGNIFICANT INVESTMENT PLAN STARTED IN EARLY 2009. WITH A SMALL PROJECT TEAM CONSISTING OF THE SCHOEN FAMILY AND THE PLANT MANAGER, THE COMPANY EMBARKED ON AN AMBITIOUS €50 MILLION INVESTMENT PLAN*



Liebensteiner Kartonwerk produces a wide range of corrugated packaging, predominantly aimed at transit protection for automotive goods, but also for furniture and consumer goods. The company buys its sheet-board from Prowell. The company supplies customers within a 350km radius of the factory and thanks to its huge Hörmann warehousing facility, is able to 'stock and serve' on a just-in-time basis for all of its customers. "Due to the nature of the products we produce, the real value we offer customers is the complete service, not just a piece of corrugated board," explains Mr Schön. "We design economical, yet intricate fitments, recommend board grades

and then offer a wide range of storage solutions to customers; we do not simply chase after volume and square meters — we try to find true value-added solutions in everything we do."

**Long relationship**

Liebensteiner's relationship with Göpfert Maschinen GmbH can be traced back to 1968 when this converter first started making boxes. "As I mentioned earlier, part of the success of our business has been thanks to

the machines we operate; we like state-of-the-art equipment and opt for the best available machines. Our first Göpfert machine was a slitter scorer, installed in 1968. Over the following decades, we placed a great deal of faith in Göpfert, including a printer slotter in the 1970s, an automatic slitter scorer in the early 1980s, a 3.0m printer slotter and 280 rotary die-cutter in the 1990s and an



**Big or small, Prowell supply all sheet requirements.**



**L to R: Ulrich Wolz, Managing Director of Bahmüller GmbH, Andre Göpfert, Managing Director of Göpfert GmbH, Bernhard Schön and Ralf Schiffmann, Sales Director of Göpfert GmbH.**

**LIEBENSTEINER'S RELATIONSHIP WITH GÖPFERT MASCHINEN CAN BE TRACED BACK TO 1968, WHEN THIS CONVERTER FIRST STARTED MAKING BOXES.**



Evolution rotary die-cutter in early 2002. The latest round of investment, last year, include a jumbo CL 20/55 Container Line, a CL 16/36 Case Line and a short run box-making line. Such is our belief in this supplier, we didn't actually visit an installation of the CL prior to making our decision. We knew these were the right machines for us, so we had no hesitation in choosing them. Our decision has proved to be right."

The Container Line and Case Line casemakers are manufactured by BGM, an active collaboration between two German family businesses — Bahmüller and Göpfert. In creating these in-line machines, Göpfert looks after the printing and die-cutting sections, while Bahmüller looks after the folding and sealing aspects (glue, stitch, tape and all combinations). Capable of handling sheets up to 5500mm x 2500mm, at up to 6,000 feeds per hour, the machine is equipped with options for gluing, stitching and taping. The solid design of the slotting and die-cutting units means that almost every product style can be produced on this machine. Multifunctionality is a major feature of the machine design. Operating with double slotting units, Liebensteiner can produce a wide range of products, and new features in the slotting unit provide several new opportunities for product design and production.

The feed unit is a full width vacuum lead edge feeder which is fully motorised and CNC controlled for auto set and is fully integrated with the Göpfert designed pre-feeder. Special design features include sheet brakes for low friction and skewed sheet

detection. All the print units have a high level of automation as all the relevant axis are computerised for fast and easy set-up and, more importantly, reproducible performance. With a one to one ratio between the plate and impression cylinders, repeat accuracy is guaranteed and hard rubber creasers can be used to provide reverse creasing.

The twin slotting units are equipped with tools for pre-crushing and creasing and include two slotting shafts. The design of the units incorporates full 360°



THE CONTAINER LINE AND CASE LINE CASEMAKERS ARE MANUFACTURED BY BGM, AN ACTIVE COLLABORATION BETWEEN TWO GERMAN FAMILY BUSINESSES — BAHMÜLLER AND GÖPFERT.





THE FOLDING SECTION FROM BAHMÜLLER IS THEIR LATEST SERVO DRIVEN, THREE BRIDGE DESIGN WHICH IS EQUIPPED WITH PATENTED STEP FOLDING BELTS. THESE ENSURE ACCURATE, SQUARE FOLDING AND GAP CONTROL, AND ELIMINATES MANY OF THE CAUSES OF FISHTAILING.

for accuracy and does not require any manual adjustment when running in skip feed mode. The four independent servo driven aligning units are movable over the whole working width, in order to produce extreme panel sizes.

The FEFCO award winning 'Push Together Unit' is capable of increasing productivity from 20 to 80 per cent for taping and stitching mode, depending on blank measurement, and all at running speeds never seen before, (speeds of up to 5,000 kicks on a Jumbo).

For high speed stitching the line is equipped with a direct driven tandem stitcher capable of up to 1250 stitches per minute per head, with an automatic lubrication system and rapid change tooling. Automatic setting of the position and caliper of the transport bridges, together with automatic caliper setting for the stitching heads reduces set-up time and operator errors. Thanks to quick set tooling, maintenance can be carried out outside of the stitching heads while running. The hot-melt taping unit which is capable of being run on its own or in combination with gluing, providing even more product options.

At the take-off, the cases are collected in the drying unit after sealing and then taken via two independent conveyors to the stacker. This latest design of stacker provides precise stack alignment for regular cases and irregular die-cut products. The intermediate forks optimise the stack change and eliminate the need to reduce machine speed during the change-over. For precise counting of big sheets, a laser counter is in place. The Case Line CL 16/36 is equipped with the latest top bottom counter ejector, meaning that light weight paper grades — as well as the heaviest grades — can be run on that unit. Batch building is separated from batch ejection to avoid any marking on the high quality printed boxes.

running register adjustment and an extended slotting capability. When used in combination with the rotary die-cut unit, the Container Line is capable of producing product in a wide range of shapes and sizes.

The folding section from Bahmüller is their latest servo driven, three bridge design which is equipped with patented step folding belts. These ensure accurate, square folding and gap control and eliminates many of the causes of fishtailing. In order to increase the folding quality, the following features are available:

- Offset of the upper folding bridge;
- Step folding belts, which fold parallel to the scoring line;
- Side guiding belts for a defined gap control during production;
- Forming rollers.

The independent servo drive to each side means that mechanical drive shafts and cross shafts are eliminated, providing easier operator access and precise control of the folding. Two folding sections (0 – 90 and 90 – 180°) guarantees optimal folding tolerances for all different board grades. The heaviest triple wall can be converted on this Jumbo Line.

From a central control point, the operator has the opportunity to enter the machine for quality inspection while it is running. Small panel sizes of a 100mm minimum are able to be run, even on a machine with a working width of 5500mm. This feature is important for the furniture and window industry.

When running stitched or taped work there is an additional aligning section, which is again servo driven

€50 MILLION INVESTMENT



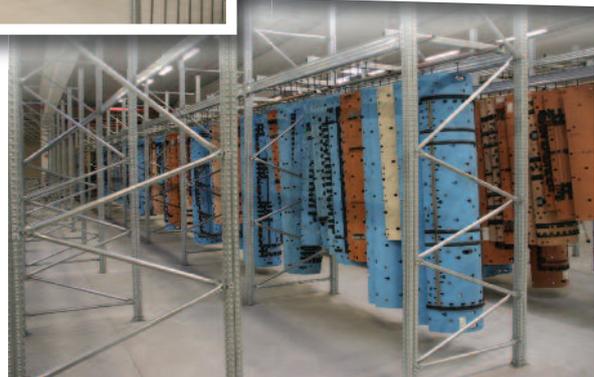
AS WELL AS THE TWO BGM LINES, LIEBENSTEINER INSTALLED SEVERAL ADDITIONAL CONVERTING LINES, INCLUDING AN EMBA 245QS ULTIMA, A BOBST MASTERFLEX IN-LINE WITH MASTERCUT FLAT BED DIE-CUTTER AND A BOBST SPECIALTY FOLDER GLUER.



matter what size. The mezzanine acts as a central handling area, so that one operator can prepare the correct ink quantity, die forme and printing stereotypes; from here, these items are placed on a trolley and then lowered down to the production area and transferred to the correct converting machine by the Dücker materials handling system.

### Other Equipment

As well as the two BGM lines, Liebensteiner installed several additional converting lines, including an Emba 245QS Ultima, a Bobst Masterflex in-line with Mastercut flat bed die-cutter and a new Bobst specialty folder gluer. A complete materials handling system, including shuttle cars, plastic chain conveyors, pallet inserters and WIP area was supplied by Dücker GmbH, while a significant mezzanine floor was erected to house a complete printing stereo and die forme storage system. Manufactured by Denmark based bcm Transtech A/S, the system allows for the safe and easy storage of flat bed dies, rotary dies and all printing stereotypes, no



It is unusual to find the sophisticated levels of automation in even the best invested integrated factory, so to see what Liebensteiner have been up to in other areas of the factory should probably come as no surprise. A complete in-plant ambient moisture control system, a 1 million dust briquette and waste handling system and baling unit and sophisticated plant scheduling systems from Hörmann, all give this factory the feel of a state-of-the-art, 21st century operation. And what about the weather, especially when it snows? “We have our own snow plough and gritting systems to ensure our fleet of 18 trucks remain unhindered in their daily duty,” explains Mr

*THE SUCCESS OF ANY FAMILY BUSINESS IS THE FACE-TIME SPENT WITH CUSTOMERS AND THEIR COMMITMENT TO EXCELLENCE*



Schön. It appears no detail has been missed!

**One stop shop**

“From micro flute to triple wall heavy duty cases, we are proud of the fact that many of our customers see us as a ‘one stop shop’ for their packaging requirements,” concludes Mr Schön. “Our relationship with our suppliers is critical to the on-going success of our company and we have complete faith in the equipment and systems that we have installed over the last 12 months. The success of any family business is the face-time spent with customers and the commitment to excellence — we are confident that Liebensteiner is well prepared for the next generation of management.” ■