

As Industry 4:0 — and more specifically Corrugated 4:0 — become more and more part of our everyday life, it is interesting to hear how some of the world's leading independent businesses are grasping the issue and dealing with what is just around the corner. One of Europe's leading, privately owned corrugated paper and packaging groups is Model, whose headquarters can be found in Weinfelden, Switzerland. Further facilities are located in Poland, Czech Republic, Germany, Slovakia, Croatia and Ukraine.

They are a well invested, highly motivated family business, which stakes its reputation on innovative packaging design, use of the highest quality raw materials and a pioneer when it comes to choosing machinery. It was Model in Weinfelden, after all, who took delivery of the first 400m per min corrugator from BHS Corrugated back in the 1990s. Their adoption of all the latest equipment from Bobst is also well documented.

AN EXCLUSIVE REPORT
BY DANIEL BRUNTON

TURBOX

WHEN MODEL LOOKED TO SHAKE UP THE
GLUING DEPARTMENT AT ITS HEADQUARTERS
IN WEINFELDEN, SWITZERLAND, THEY TURNED
TO BAHMÜLLER FOR A SOLUTION

HELPS PRODUCTIVITY



L to R: Edoardo Finotti, Ulrich Wolz (Bahmüller) and Ljunturi Ramadani.

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Having said all that, it seems that there are some significant challenges being faced by Swiss companies at the moment — Model included. The negative effect of currency has had a huge impact on manufacturing businesses, simply making them too expensive in international markets. Not deterred, Model has looked at the way it manufactures and is charging down the route of Corrugated 4.0 to retain customers throughout Europe. The mantra is simple — produce only the quantity that is ordered and keep waste to a minimum, all the while making the best quality box.

But in looking to achieve this, there are some significant factors that need to be taken into account. Material flow through the plant, automation of the process and getting your people to change the way they think. All of this can be made more difficult too — for example, try fine-tuning things when you are in a factory that is

almost one hundred years old and not suited to housing such large, modern machines!

One department at a time

“Operators are expensive in Switzerland, compared to Poland where we have other factories,” explains Edoardo Finotti, Head of Production and member of the Executive Board of Model AG. “We realised some time ago that

to be at the top of our game, we needed to enhance the flow of our factory and try to automate as much of the converting process as possible. Our site in Weinfelden is made up of three factory blocks that have been built at different times over many decades,” he continues. “The central building houses the corrugator and Minda pallet inserting system. From the corrugator, the line has a left



IMPROVED PRODUCTIVITY

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handed out-feed that sends stacks of board for inline conversion in the left hand building; away from the corrugator on a right hand out-feed, sheets are sent to our new digital press, flat bed die-cutters, offline flexo press and then into gluing.”

Focussing in the right part of the building, Mr Finotti and his team analysed the work flow and quickly realised that the gluers — seven of them in total — were causing a bottleneck, because they simply could not keep up with the output from the die-cutting department. “We set to work, analysing the product mix and trying to work out how we could improve things,” he explains. “Although we had seven gluers, many of them were older units and set-up time was causing issues. We started to have discussions with Bahmüller about their Boxflow Solutions with Turbox lines and it quickly became apparent that these fully automated lines could be the answer to our issues.”

The two companies sat down and thoroughly reviewed the

physical layout of the gluing department and after a significant change in machine positioning and the installation of a pair of mirrored Turbox gluers, the department was reduced to four gluers in total.

“It was somewhat of a departure from the norm for many of our operators,” explains Mr Finotti. “We really took our time in finding the right people for the new machines and we got them on board with our thinking as quickly as possible. With intensive training and the support of Bahmüller process engineers,

we had the two machines in and running within a matter of months of each other and the results have been really impressive.”

It is exactly a year since the first Turbox BTX 2300 line was installed. This was followed by a Turbox BTX 1700 a few months later. The final addition was a Powerpacker with integrated ATS Tanner Banding tape-tie applicator and MuK robotic palletiser. “We wanted mirrored machines so that the amount of operators could be reduced to handle the production



from two lines,” says Mr Finotti. “It is really great to see that our plan has worked. Now, the gluing department is under less pressure and in some ways, out-performing the rest of the hall!”

Special designs

With the rapid growth of SRP in Europe and now that Swiss companies are seeing the value in this type of pack style, Model opted to take Bahmüller’s Topmatcher unit for the Turbox BTX 2300 gluer. The Topmatcher enables Model

“THE VOLUME OF VARIATIONS AND DIFFERENT PRINT ON SMALL LOT SIZES HAS PUT A NEW TYPE OF PRESSURE ON OUR BUSINESS.”
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to produce ‘boxes inside boxes’ and is able to feed up to three pieces for special box designs. The Baumer HHS glue system with glue detection and new code reader for corrugated board included, the machine is flexible and versatile.

The second machine, the Turbox BTX 1700 is the latest generation of machine and features the Multifold unit for pre-folding of the blank, as well as ‘Unique Eject’ for easy removal of imperfect boxes. Single box ejection in combination with detection systems and the code reader facilitates zero defect production on a fully automated line, with an ATS Tanner Banding strap applicator added to the Powerpacker and MuK palletising system. Both machines can handle corrugated board produced in a wide range of flutes, including A, B, C, E, F and G flute, as well as EE, BE and BC doublewall. They can produce straight line, crash lock, 4 & 6 corner boxes, as well as 4 corner boxes with cover and 6 corner boxes with in-fold.

“We are under significant pressure from customers to ensure



100 per cent conformity of all boxes and we had found that the standard 5mm bundle straps were damaging the top and bottom boxes, resulting in rejection,” explains Mr Finotti. “When we discussed this with the team at Bahmüller, they suggested we install the ATS strap system at the end of the Powerpacker line. This unit can apply 15 or 20mm soft straps to the bundles and since we installed the unit, rejections are at an all time low.”

Relationship counts

“When we embarked on the review of the gluing department, we

worked closely with Bahmüller and our design team too,” continues Mr Finotti. “Even though we have a great design department for displays and high quality printed boxes, we needed to learn more about what could be done on the new gluers. We have been really satisfied with how Bahmüller have been able to help our team with design concepts and rolling out new box styles.”

With the addition of the new Bobst digital press, things have taken another leap forward too. “The digital press, which was the first one Bobst had built, has been in for about a year now and it has revolutionised the way we are working with our customers,” concludes Mr Finotti. “The volume of variations and different print on small lot sizes has put a new type of pressure on our business. Workflow, material transfer and most importantly, quality control on the gluer, is all critical to our ongoing success. Bahmüller’s Turbox machines have fitted in very well indeed and we are pleased with how our business is developing, considering how tough business in Switzerland is at this time.” ■

