The IMA magazine for customers | issue 1 | 2012

iMagazine

Clearly ahead of the competition: **IMA Laser Edging**

IMA
LEADING TECHNOLOGIES

IMA Laser Edging

Contents

EDITORIAL

Dear Reader,

The business year 2012 will be a successful year for IMA. Due to our market oriented product development philosophy and the continuing trust of our customers in IMA technology and services, we didn't notice any reluctance to invest, as known from previous years, in 2011 anymore. This is not only our merit, but the merit of your decisions: Because all those who opted to buy IMA have clear objectives in mind. To be successful on a long-term basis in a market that is likely to remain competitive, not only do you need the right business idea but even more the right technology. And this is supplied by IMA. Our people work hard every day to meet that challenge. It's you who should profit from the new developments and innovations. Already at the next Xylexpo, we are going to present highlights again, such as a new product family in the field of stationary machines. The results of the most recent fairs of the furniture industry, for example the ZOW and the imm Cologne, provide further reasons for confidence in a positive market development.

In this edition of the iMagazine you will find numerous insights gained by experts for your benefit, information on the utilization of the Laser Edging process and attractive offers from the IMA Service side.

Yours faithfully
Rüdiger Schliekmann

Rüdiger Schliekmann,
Managing Director,
IMA Klessmann GmbH
Holzbearbeitungs-
systeme

Product & market

The new moving gantry machines of the *BIMA* Gx series allow for higher dynamics

While typical portal frame machines have remained basically unchanged in construction and table design and C-frame machines were simultaneously losing ground, there has been a clear trend towards machines in gantry design. And the advantages of this moving gantry design have been adopted by the brand new BIMA **Gx30, Gx50** and **Gx60** machining centres. The highly dynamic low-vibration gantry drive with its servomotors on both sides of the portal frame moves the X axis of the machine in a master-slave configuration, and keeps its dynamic and low-vibration capabilities even with heavy-duty machining requirements and high acceleration ramps. The machine bed – in the case of the Gx30 series, made of a concrete-steel combination – allows for the required stiffness and oscillation damping. This improves the machining quality and increases the tool life, both of which are clear advantages for every user.

The obvious advantages of the BIMA Gx series at a glance

- moving gantry machine with true gantry drive
- new IMAWOP 8.0 software, including optional 3D simulation on the workpiece and collision monitoring
- a second Z axis (standard feature) enables automatic tool change during the drilling cycle
- LED technology allows for safe and reliable worktable setup
- vacuum support bars on linear guides
- safe data handling and protection against data loss by the use of an imageable hard disk
- USB port on the control panel

BIMA Gx30 specification

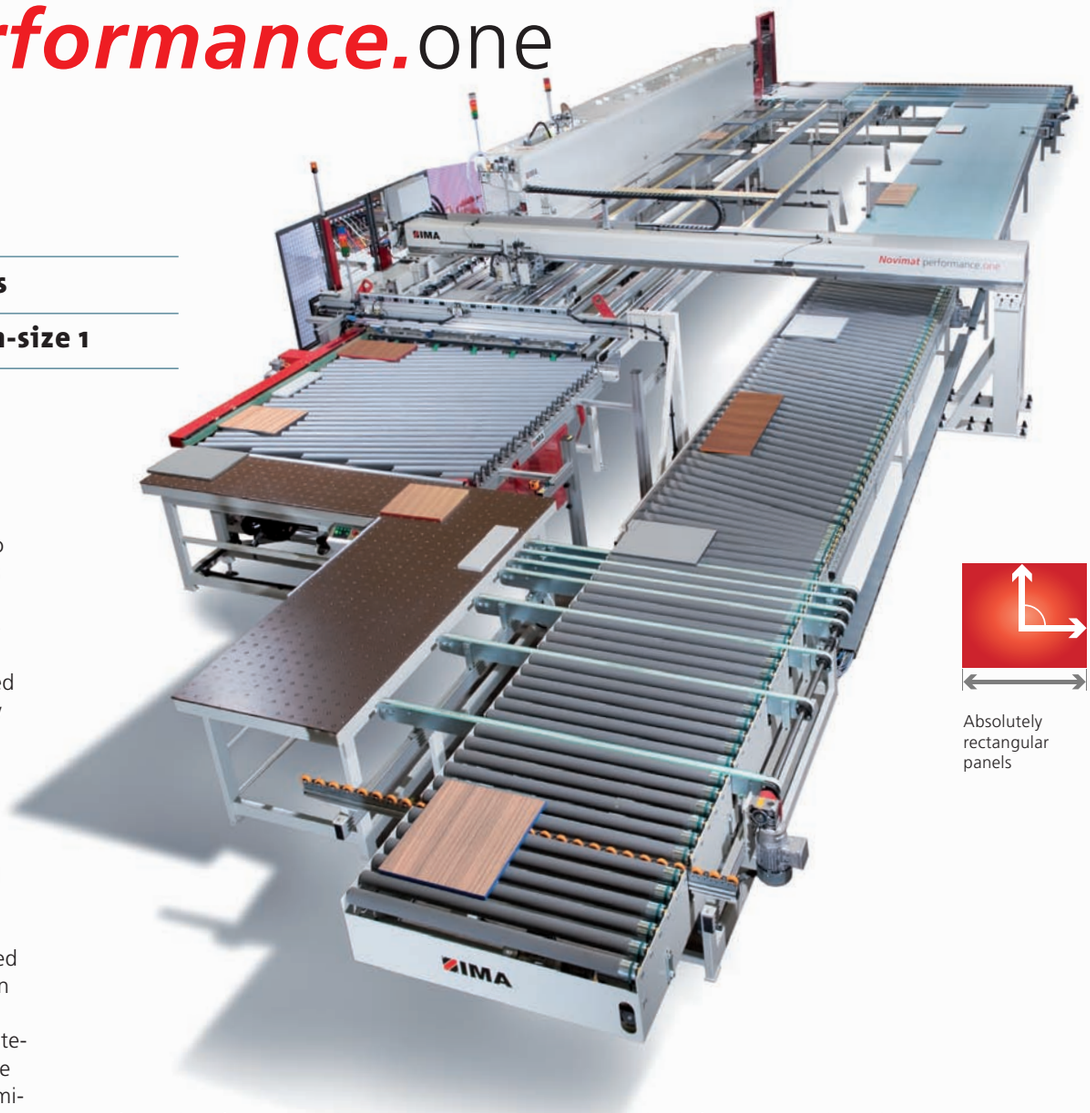
- can be installed in halls with low ceiling heights: machine height = 2600 mm
- T-shaped drilling unit up to 9000 rev/min, with 31 vertical spindles and 4 x 2 horizontal spindles
- dust extraction of the horizontal spindles integrated in the drilling head, and extraction shoe for the vertical drill spindles
- 8-station tool changer travelling with the head assembly in X/Y directions
- very compact 5-axis spindle

BIMA Gx50/60 specification

- tool configuration depending on customer requirements
- workpiece thickness max. 500 mm, including the clamping device (for robot head)

Performance.one

Perfect panel infeed ensures economic success with batch-size 1



Absolutely rectangular panels

Any furniture manufacturer who wants to be on top of their game on a global basis needs above all a reliable partner for the development of the right production processes and systems. Because what counts here is only flexibility and speed, combined with great demands placed on the quality of every single work step. In this respect, investment in innovative and sustainable technology that is fit for the future is the key to long-term success in this industry.

Performance.one enables batch-size-1 production without any great complexity

With Performance.one, IMA has developed a highly sophisticated automation solution for flexible batch-size-1 production that requires minimal staffing and sets completely new standards in terms of flexibility. The fabrication of furniture components is dominated by small batch sizes intended to meet high quality standards. In this process, complete processing on one machine substantially reduces setup and machining times. Shorter production cycles as well as more and more complex products have made this development necessary. In order to be able to achieve efficient and competitive production under these conditions, production processes need to be oriented towards this goal. The Performance.one made by IMA is a modular and future-proof machine concept for panel sizing and edge banding machines of the Novimat and Combima types relying on the most advanced equipment, the latest technology available and an operator friendly design. Hence, batch-size-1 production is becoming possible without the need to make large investments and without requiring much setup.

Highly flexible processing line achieves great dimensional and angular accuracy

Performance.one has been developed for custom production and small batch sizes. The highly flexible processing line cell for panel sizing, edge banding and fine finishing consists of a single-side edgebander with proven IMA processing unit technology that is individually matched to the needs of the specific application. The servo infeed table for fully automatic panel infeed can be equipped with an alignment system to fabricate panels with a high degree of dimensional and angular accuracy. A both powerful and surface-protecting return conveyor returns the panels back to the infeed of the machine, where the machining program for panel part is identified and loaded by barcode. Three cross-transfer devices and a dynamic minimization of the panel gap significantly increases capacity. The plant is controlled by the well-known and proven ICOS controller made by IMA. With the help of Performance.one, fully automatic fabrication of panels with great dimensional & angular accuracy and in the quality you can expect from IMA becomes a reality that increases competitiveness. Training programs for operators as well as a 24-hours service with the IMA Service Platform round up the tailor made package.

IMA infeed system offers absolute dimensional accuracy

The servo infeed and alignment system for feeding the panels into a single-side edge banding machine independent of their lengths and widths represents a particularly innovative component of the Performance.one. It allows manufacturers to fabricate panels with accurate squareness and parallelism as well as absolute dimensional stability. Due to its flexible dog spacing, the infeed system provides the highest accuracy of size and form – even with inaccurately pre-sized panels. Hence, production capacity can also be increased in the case of batch-size-1 projects. Another highlight of the infeed system is that it generates the optimal panel spacing both for transversal and longitudinal processing.

Simple data link

The machines are controlled by the proven ICOS Open controller from IMA. The PC-based control system with integrated PLC and electronic line point control has a user-friendly HMI with Windows standards. The ICOS Open user interface provides perfect information flow between the operator and the processing plant. The numerous interfaces enable functions such as barcode control with stationary scanners or, if desired, via mobile handheld radio scanners as well as tape management. In addition, the network points accelerate and facilitate connection to the customer software. That means, job data and program data can be received from external sources, or the transfer of production messages can be integrated.

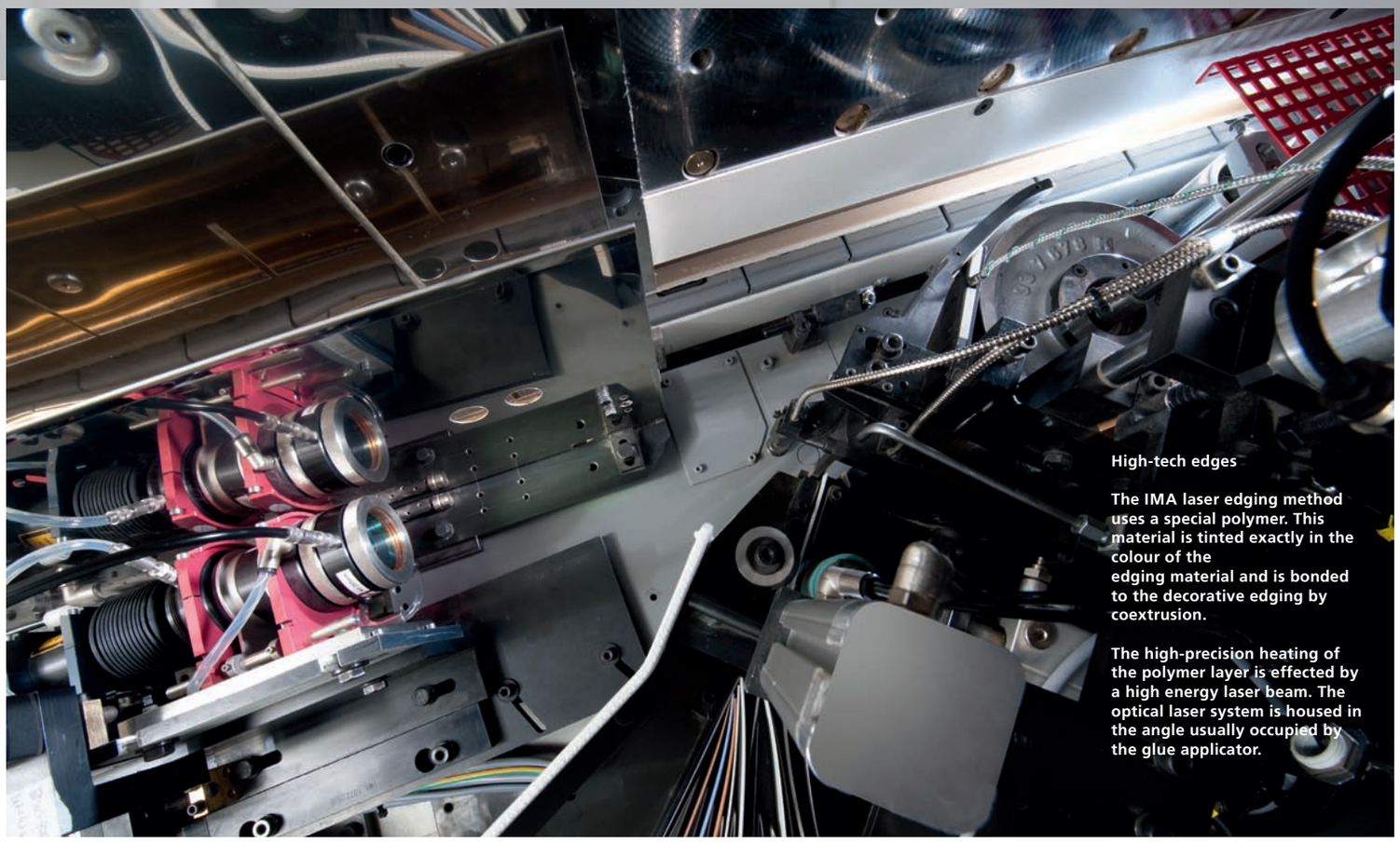
Profitable and competitive

The Performance.one package from IMA offers a sophisticated production environment for true batch-size-1 jobs which can be managed by one operator only. These solutions utilize the most innovative technology such as the Laser Edging process and the IMA ›KFA‹ contour milling unit. Due to their dependable quality and commitment to high-performance, the machines will be running in a very profitable and competitive production environment.

Seamless edge banding with **IMA Laser Edging** puts manufacturers ahead of their competitors

Assmann Büromöbel relies on innovative processing plant technology from IMA

In the last couple of years, no other technology has revolutionized the field of seamless edge banding as much as the ›Laser Edging‹ process. Thanks to the laser technology used by IMA, the 100 percent ›zero joint gap‹ has long since pushed many furniture manufacturers far ahead of their competitors – from throughfeed systems through stationary machining centres, to batch size 1 and mass production. However, beside the Laser Edging, it is also the synchronized interaction of all machine components together with process security which is of crucial importance for a perfect end result. It is the only way to combine technical precision with the high aesthetic demands placed on the finished furniture component. Meanwhile, renowned furniture manufacturers around the globe have learned to make use of these advantages. Also end-users have long since noticed this quality jump and expect perfect processing. Assmann Büromöbel GmbH & Co. KG is another leading office furniture manufacturer in Germany that is putting its trust in technology from the **IMA Network,** a successful cooperation of the companies IMA, Priess & Horstmann and Schelling. The previous stand-alone workcells in the prefabrication area at the Melle site will give way to a state-of-the-art, fully integrated line. Within the next two years, the company is planning to realign its complete production technology installed on the site. The result of the joint development by Assmann and the **IMA Network** will be profitable automated batch-size-1 fabrication. The conversion can give the office furniture producer significant advantages in productivity and quality that will safeguard its future, especially since furniture production is increasingly subject to cost pressure and competition. This production optimization will allow Assmann to produce even the smallest quantities of components at affordable prices. By linking the processing functions of the individual machines, in which also the IMA Laser Edging technology plays a critical part, the degree of automation in the prefabrication zone will be increased step by step.



High-tech edges

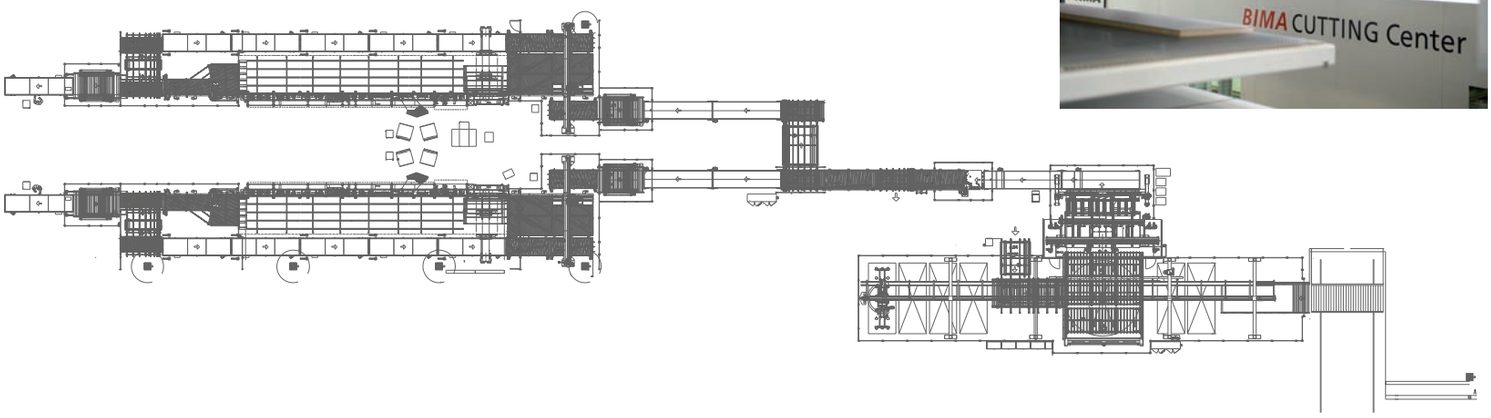
The IMA laser edging method uses a special polymer. This material is tinted exactly in the colour of the edging material and is bonded to the decorative edging by coextrusion.

The high-precision heating of the polymer layer is effected by a high energy laser beam. The optical laser system is housed in the angle usually occupied by the glue applicator.

The Imab Group from Italy relies on the know-how of its system supplier IMA

Future-oriented production structures with **IMA technology**

Imab production line 1: 2 single-side Combimas, 1 Cutting Center with feeding system



With a multitude of residential furniture products for living rooms and bedrooms, the Imab Group S.p.A. has been occupying a leading position in Italy for many years. Today, well over 400 employees manufacture designer furniture. Since Imab was established in 1968, the company has continuously evolved to meet changing market needs: a continued commitment to invest in innovative machine technology and the creation of its own brands have led to constant growth at Imab. In order to enable its furniture production to meet future challenges, the family owned and operated company from Central Italy decided to restructure and realign its production completely. The large range of products requires Imab to keep a certain level of inventory. To keep the inventory levels as low as possible at all of Imab's manufacturing sites is a long term goal. The solution to this challenge for the management of the company was to concentrate all of the panel processing in the main factory, while the branches concentrate on final assembly and logistics.

To accomplish this goal, Imab chose to purchase the proven machine technology made by IMA from Lübbecke. Additionally there is a significant shift in the Italian furniture industry from large batch production to smaller batch production and inventory reduction. This development has become necessary since furniture customers are placing increasingly greater demands on individuality. Aside from large batch production, which will play a reduced but still large part in the company, production shall from now on primarily focus on more flexibility at smaller batch sizes. After intensive market analysis, the company management opted for a tailor-made IMA system which leaves all doors open for the Italian furniture producer to make future adaptations. Another essential argument for the decision was the great number of IMA installations for custom production that have worked successfully for years at many furniture manufacturers all over the globe. Here, the system supplier IMA benefits from know-how that none of its competitors can offer.

In a first stage of the project, a single-side Combima with laser station and glue station, each of which can be used when required, will be installed at the head office in Fermignano. This way both technologies can be used in parallel and in a flexible way. A second Combima with the same capacity will follow. The new production line will also include a Cutting Center with a feeding system for 5.80 m x 2.25 m full-size panels, a fully integrated line with label applicator, material buffers and intermediate The Imab Group from Italy relies on the know-how of its system supplier IMA conveyors. The work cell configured in this manner is designed to process 20,000 parts per week in two-shift operation with custom production. The line supervisory system for this project was developed in cooperation with the company 3Tec, a proven IMA partner with extensive expertise in ›Supervisory Line Control‹.

The Imab management is certain that this new production concept will make the company fit for the new requirements of an individualized market and is already planning further expansion of the factory: with reliable IMA precision technology made by the German technology leader from Lübbecke.

Elmar Flötotto, Managing Director of Flötotto Systemmöbel GmbH (right) and IMA Managing Director Rüdiger Schliekmann look forward to starting a successful cooperation.

Expansion of system furniture manufacture at Westenholz site:

FLÖTOTTO banks on **lot-size-1-systems from IMA**

Flötotto Systemmöbel GmbH has invested in the latest system technology from IMA. The lot size 1 system will be used at the new, larger production site at Delbrück-Westenholz, Germany. FLÖTOTTO has invested considerable funds in the expansion of its existing capacities in order to meet the great demand for system furniture. Elmar Flötotto, the company founder's grandson, acquired the brand and product rights in 2007 when the company was in a difficult situation and ventured a new start of system furniture production. The production facilities were modernised, the capacities significantly increased and the product range cautiously extended. Today, FLÖTOTTO is more successful than ever.

"It was a jump into the deep end, but I am just very emotionally attached to the brand", confesses Elmar Flötotto, CEO of Flötotto Systemmöbel GmbH. Looking back, the entrepreneur, who now runs the business together with his son Frederik, explains: *"That time we started once again to build furniture with humility and modesty."* This attitude eventually bore fruit. *"We have had a very positive development. Now it is time to invest again in the expansion and modernisation of our production facilities."*

For FLÖTOTTO, this means above all a transition from classical production to one piece flow manufacturing and optimization of the entire internal logistics with the help of automation. Here, technical solutions from IMA play a key role. This is how the circle can be squared: individual customization according to customer orders at unit costs which can otherwise only be found in mass production. Innovative machine concepts from IMA make this possible – they offer FLÖTOTTO flexible manufacturing in two and some time in the future even in three-shift operation without any significant changeover times.

Relocation of production back to the own company

FLÖTOTTO had another objective: increasing its own value creation. Up to now, only the final assembly has been performed in the company's workshop, and suppliers have provided the company with the required semi-finished parts. True, this approach enabled FLÖTOTTO to quickly get back into production, but this came at a price: the semi-finished products had to be ordered ahead, tying up precious capital and leading to dependences on the suppliers.

This changed with the development of the company's own production capacities. However, the venture into production represented a major challenge for FLÖTOTTO, which is typical for the entire sector: customers can today order furniture in all conceivable colours, patterns and dimensions. At the same time, customers are very price-conscious.

Lot size 1 manufacture permits economical customisation in smallest quantities

Rüdiger Schliekmann, CEO of IMA, speaks of *"increasing individualisation"* in this context. In other words: although customers are more price-conscious, they ask more and more often for special colours, textures, functions or shapes to distinguish themselves from the mainstream and to satisfy individual needs. Today, customisation is the be-all and end-all of furniture production. *"Due to changing market requirements, one piece flow systems are becoming more and more important",* Schliekmann adds. This is why efficient and automated production is just as important for family-run companies as for the global players in the furniture sector. *"These days, also medium-sized furniture manufacturers must be able to produce in lot size 1. This is why they need state-of-the-art technology which must still be affordable. This is where we come into play, offering lot size 1 systems for parts manufacture with high reproducible quality for this sector".*

Elmar Flötotto confirms the remarks of the new technology partner from Lübbecke: *"The requirement was that we can build high quality system furniture – at a price that is competitive on the German market. However, we serve not only university dorm rooms which order large quantities, but also individuals. For this reason we were looking for a concept which can deal with both lot size 1 and small series. In so doing, the investment had to be manageable. IMA was the only manufacturer who did not sell us a silo but could copy our processes one to one.*

Automatic customization

With the BIMA CUT, which is operating inside the newly erected hall at the production site Delbrück-Westenholz, the head of the company eventually found what he was after. The workcell met all requirements and promptly impressed the entrepreneur. Today, a central ERP system records the customer orders and then transfers the data via an import interface directly to the Job Manager of the BIMA CUT. A BIMACUT Editor collects the machining data needed to process a specific job and nests the individual components in the raw panel so as to minimize waste. FLÖTOTTO uses half-size panels. On the BIMA CUT, each of the components in the panel is cut to size and, if required, processed on all six sides.

Efficient material flow allows for efficient production

A suction pick-up device lifts the milled and drilled parts from the worktable and puts

them on a belt conveyor. At the same time, the automatic setup table is repositioned and the raw panel is fed to the table. In the event that large residual parts are produced, these will be taken account of in the next optimisation. For small residual parts, the BIMA CUT has a manual workplace. Each part has a unique barcode sticker. This way, each component can be assigned to a specific order. The parts are then automatically transferred to the IMA Novimat edge bander. A ›hedgehog conveyor‹ with 30 buffer locations, integrated in the belt conveyor, allows for efficient material flow and hence efficient production: One person is enough to operate the entire system (routing, drilling and edge processing).

60 percent time saving

With this investment, FLÖTOTTO has restructured its entire production process and brought value added processes back in house. The company saves not only money but also time. *"We used to accumulate all orders that were placed in one week. Panel orders were then placed at the component supplier who pre-sized the panels and returned the semi-finished parts after approx. one week. Today I accumulate orders during two to three days and transfer them to the machine where the panels are processed",* says Flötotto. *"In the past, it took furniture manufacturers 15 days to obtain a result that can now be achieved in 4 days. Internal logistics have become significantly more efficient. In addition, we have control over the entire process",* Flötotto explains. A positive side effect is that, before the technology offensive, the company had to sort out defective panels from the supplier and restart the entire production process. *"Today we are able to react directly to defective components and refabricate them."*

Flötotto describes the cooperation with IMA as excellent: *"We were given competent advice and could calculate jointly the machine's capabilities versus its costs and whether the payback was acceptable. Today we are able to produce furniture economically."* The fundamental technological overhaul of the company's production processes will contribute to the reputation of the FLÖTOTTO trademark, also beyond the borders of Germany.

IMA Managing Director Rüdiger Schliekmann is personally checking the high quality of the components produced on the BIMA CUT.

Retrofit with IMA:

The key to increasing productivity and ensuring process security in the future

Excellent service is much talked about, but only few companies offer their customers such a broad range of after-sales services and support as IMA. More than 120 service people all over the world are available 24 hours per day to ensure trouble-free operation of the IMA plants.

Apart from classic service activities such as troubleshooting machines, carrying out repairs and supplying spare parts, it is, above all, preventive maintenance which is needed to ensure high technical availability and hence regular and economic operation of the machines. In order to prolong the life of older machines and to increase their performance, the IMA service team has developed a comprehensive modernisation and retrofit programme. It will often suffice to replace only few components in order to bring your machine to the state-of-the-art and make full use of its capabilities. Productivity is significantly increased at calculated costs. R & D findings at IMA not only flow into the development of new machines but also into boosting the performance of existing plants. This makes the decision in favour of IMA so much easier: Because service offers, such as software updates or particularly powerful adapter units for door processing, drilling, milling or sawing, will noticeably improve the quality of work and productivity.

Apart from the contact possibilities that you know, the IMA Service offers an online shop since 1 March 2012: this allows you to access information independently of time and place as well as to place purchase orders quickly and conveniently.

New: Online shop

www.shop-ima.net




Laser Edging is still the technology of the future

REHAU Edging Symposium at IMA has long become a red-letter day in the calendar of furniture manufacturers

As in the years before, the REHAU Edging Symposium at IMA in Lübbecke met great interest: More than 200 participants from the international kitchen, office and residential furniture industry as well as from the component supply industry followed the invitation to Eastern Westphalia. New developments in machine and tooling technology for laser processing were at the top of the agenda. But the practice-oriented participants also found the application of laser technology in the field of stationary machining to be of great interest. In the IMA production halls and the IMA Technology Centre, the visitors had the chance to look closely at various aspects of edge banding: Jointless edge banding with an efficient diode laser on the BIMA 400 was the topic of the first station, followed by topics such as ›high-gloss finish in radiused areas‹, ›laser processing in quantities starting from 1‹ on a Combima, jointless processing using plasma technology, new features on stationary systems as well as knowledge gained on the quality of laser-edged components. The REHAU Edging Symposium 2012 left satisfied visitors, provided with practical tips and detailed reports, who took a lot of valuable experience with them for their everyday work.

IMA international

New IMA office in Guangdong/China

New Office, service/trainingcenter and showroom

China's furniture industry is more and more important for the domestic and the worldwide market. IMA – with their newly established office – will be even closer to the Chinese market than before. The new home of IMA will be in Houjie! Local well-known furniture companies are close by, the total numbers of orders for such a high performance technology like IMA is still growing up. IMA China an-nounces the opening of its new office in China. The new office, located in Houjie, which is directly located in China south furniture heart.

IMA's new office is operated by 6 full-time employees and a number of service technicians supported by our partner Wellex. Wellex's aim is to support IMA's clients whose demands increased for German technology.

"Due to the fast growing economy in China, we clearly felt a need to improve our capabilities in this key market by opening a sales and service office", says Hans Ferchland, CEO of IMA China. *"With our existing office in Changzhou and Singapore, IMA has established a strong presence in Asia, with an office within each of the most dynamic economies in the region."*

International Trade Fair participations

Current Trade Fairs at: www.ima.de/en/company/fairs/

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