

iMagazin

The technique of nature:
efficient + perfect



network

**WE CREATE PROGRESS –
ONE STEP AHEAD**



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LIGNA 2013



EDITORIAL

Dear Readers,

At IMA, over the years we have become accustomed to being surprised every time by the new developments in machine technology, or the wide range of services on offer. And that is how it will look this year too. Especially since 2013 is a LIGNA year. At IMA we can always rely on our staff to demonstrate how innovative they are. More than ever this year, we have been working on new machine concepts and optimising our proven technologies, much of which will be on show in Hanover. Together with our partners in the Innovation Network, we will be showing you, for example, how to achieve perfect high gloss edges in stationary systems or how to process acrylic fronts with a glass look. Whether Advantage, BIMA

or any other range – in Hanover there will be a number of highlights waiting for you. And of course, a well-prepared exhibition team, looking forward to your visit and available for in-depth discussions. And, as always, we ourselves are looking forward to a few lively days at the LIGNA exhibition, which now almost guarantees a fresh impetus, new ideas and exciting encounters.

The Editorial Team

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System competence with tailor-made peak technology

The Network is a key technology partner of the furniture industry.

Already for the second time, *the Network* – a cooperation of three companies – will present itself on a common exhibition stand at the LIGNA in Hanover. Also at other national and international fairs of the woodworking machinery industry such as the Fimma in Brazil or the Interzum in Guangzhou, IMA will be exhibiting with its partners Priess & Horstmann and Schelling to show a common success strategy. Integrated production lines require the know-how of very different specialists. And that is exactly the reason why the Network has been so successful since its common start. LIGNA visitors and customers may expect cumulative competence in production and plant technology for complete solutions, from panel sizing to the fabrication of ready-to-assemble furniture components. The teamwork of all companies involved since the start of *the Network* soon made

clear that this cooperation has been set up to last for a good while.

IMA Managing Partner Ruediger Schliekmann sums up the success of the Network stating, *“Today’s furniture industry needs complete solutions that cover the entire process chain from panel sizing through throughfeed edge banding to handling and logistics and that optimally match the specific production processes of a manufacturer. With a calculated turnover of 200 million euros and 1250 employees at 70 sites worldwide, the Network belongs to the most significant technology partners of the furniture industry. Different from an integrated corporation, our consortium has the advantage that each of the individual partner companies must stand its ground in the marketplace. Hence, we provide products and services of the greatest possible value in all fields. The customer nevertheless has only one partner to talk to in all phases of the project because IMA typically takes the responsibility for the work as the prime contractor”.*

IMA
Priess & Horstmann
 Bohr- und Einpresstechnik
schelling
network

WE CREATE PROGRESS – ONE STEP AHEAD



Ruediger Schliekmann
Managing Partner,
IMA Klessmann GmbH Holzbearbeitungssysteme



IMA Production equipment for doors

A job for the specialists:

The overview of innovative technology developments at the LIGNA

You can recognise a high quality internal door by the exact edging of the rebates. In particular, the upper corners of a door show the care with which the two rebate coatings have been matched up at the point where they meet. Here the edge material of the side rebate comes together at right angles with that of the upper rebate. The smallest gap means the coating appears not to fit together. This is a demanding job, even for a skilled carpenter working by hand. For industrial production, market leader IMA has transferred these tasks over to special units that can satisfy even the most critical specialist, offering maximum repeatability. In addition to edge banding made from raw or painted veneers, paper edges or solid plastic edges are used. At this year's LIGNA, visitors will be able to receive a comprehensive overview of various innovative technological developments.

Factories' move towards manufacturing to order requires that machines can produce and edge any format and any shape of

rebate with only limited set-up times, or even no set-up time at all. That is why normally only single sided machines are used. An essential prerequisite for this type of machine is the time-tested feed system for door blanks as they come directly from the press, a unit developed by IMA. This ensures precise manufacturing in the width and high rectangularity of the door leaves. Using IMA technology, there is no need for separate flow through a pure sizing operation.

After precise rebate formatting, the edging system ensures that the edging tape is glued to the striking edge. The units then begin their precision work on the edging tape. After that, hot air blowers reactivate the adhesive so that the rebate pressure zone can bond the edge tape into the rebate. End trimming units then remove the protrusions on the striking edge and cut off any, remaining gaps. There is no need for any manual work.

These basic units for gluing the rebates may, where needed, be supplemented by units that postform the striking edge, provided this operation can be carried out within a single machine. The machines can also accommodate painting facilities for veneered rebates.

Being able to handle door leaves that are often large and heavy whilst also processing small-sized accessory elements on a single automatic door production line is a point

that should not be underestimated. Different rebate shapes such as double rebated, counter rebated, additional machining of the bottom of the door or other measures mean that the door leaves have to pass through the same machine more than once or through secondary machines such as a postforming machine. To compensate for different processing times, buffer zones and stations are to be set up in the system and managed. The chaining, controlled by IMA software, ensures the sequence is strictly adhered to. In cooperation with the operator, IMA brings together all the work sequences for each element in an extensive matrix.

IMA door systems are used by leading door manufacturers across Europe, proving their worth over many years of use and often in multiple shift operation. The experience gained here has been included by the IMA development team to further optimise the production facilities on an ongoing basis.



Panel storage area FL 718/mid-size panels (IMA)



Saw for panel sizing (Schelling); in the background, quality control with Colour Brain

Step by step



Storage shelf unit IMA RL-V with 11 shelves (IMA)



Detail: Laser Edging unit (IMA)

Assmann Büromöbel/Melle, Germany is investing in new plant technology

The office working environment is in upheaval. Changing needs in the workplace are leading to new office designs, while team workstations and open office architecture are moving into businesses and colours and materials play an increasingly important role. The industry has left behind the standard products of earlier decades. All this has an impact on manufacturing processes. Assmann Büromöbel GmbH & Co. KG, of Melle, Germany, has recognised this and begun to realign their production facilities. Step by step the old stand-alone solutions are being converted into a range of machines that are linked together. Assmann manufactures modular furniture in the budget-priced up to the superior segment exclusively in Melle, and sells it through qualified retailers. Small and medium businesses can be found amongst their clients, as can public institutions. In 2012, Assmann employed around 300 staff, achieving a turnover of EUR 74.5 million.

For some years, Assmann has also produced to order for individual customers. As these orders became ever more complex, around the turn of the millennium, Dirk Aßmann began to convert his entire production to working on the *Kaizen* principle. He is a managing partner, the third generation to lead the family business, and is a man of action. "Decisions don't take long with us," he says. "If something is needed, it is done."

Total investment of EUR 13 million

Making the biggest investment decision in the company's history meant that Dirk Aßmann and his Head of Operations Planning, Andreas Fipp, took a little more time than usual. Before the order finally went to the Network, all the offers were analysed carefully. Andreas Fipp: "We spent a five-digit amount to have an independent mathematician simulate the material and production flow. Based on data from production and that from the machine under consideration, we carried out two alternative calculations. After checking the independent concepts we decided for the network solution."

Incidentally, Andreas Fipp is of the opinion that it is an advantage that IMA is geographically very close as well. And that this partner, based in Lübbecke, took over responsibility for the ambitious project as general contractor. Rüdiger Schliekmann managing partner at IMA and spokesman

for the Network, praised the entrepreneurial vision of the Assmann family business: "Furniture production is under ever tougher cost and competitive pressures. At the Network we claim to develop innovative system solutions for the industrial manufacturing of components, helping furniture manufacturers such as Assmann to achieve success in the marketplace. Optimisation of their production processes will enable Assmann to produce furniture reliably and economically in very small runs, and thus set standards in terms of quality and delivery."

Automation is hardly new for Assmann: Their first big step came in 2007 with the installation of a new fully automated container assembly. The delivery of the wooden parts is just in sequence and there is almost no stock at Assmann any longer. This applies to purchased furniture components in particular – which make up about 80 percent. "You could say our stock is on the road," says Dirk Aßmann. A very close relationship with suppliers is essential to ensure a seamless workflow.

C-parts manufacturing will be at the heart of the new production

This principle applies also to the newly installed C-parts fabrication. Scheduled to be completely operational by the beginning of 2014, it will be the heart of the new production line.

to greater automation ...

Edge processing line with single-side Laser Edging Combima (IMA)

In contrast to A-parts, most of which are pre-manufactured just in sequence by suppliers before they enter the production process, free-form parts as well as small quantities of rectilinear wooden parts need to be manufactured on your own. But the just-in-time production principle with the smallest possible temporary storage areas applies also to the new C parts fabrication which is already running in a real production environment consisting of a fully automatic IMA panel storage area and Schelling saw, a Baumer inspection system and an IMA Laser Edging machine. Two BIMA Px80 I Laser Edging machining centres are going to be installed soon. In the first quarter 2014, the entire fully automated machine concept shall be completed with the construction of an IMA two-lane customization storage area and a Priess & Horstmann throughfeed drilling machine. C-parts pre-manufacturing will then be the technological centre. Dirk Aßmann is waiting with bated breath for the completion of the whole project, because then a fully automatic handling & conveyor system will feed the parts to the other furniture assembly processes in the factory. The great challenge faced in the conversion to the new batch-size-1 production was and still is that current production of course needs to go on without interruptions. A difficult task – not only due to the on-site construction conditions –, which has however been

“accomplished without trouble”, says Andreas Fipp.

The new manufacturing process will start with parts storage in the IMA FL 718 panel storage area (mid-size panels). Part of the storage area will be reserved for residual panels, which can be fed to and taken away from the storage area by a second gantry. A Schelling panel saw of the AH 6330/230 type will size the panels. It is designed to perform a squaring cut, i.e. a longitudinal cut directly followed by the transverse cut, and is furthermore equipped with an under-cutter which enables additional splitting from the bottom. After the panels are sized, they will be checked for colour accuracy and surface quality while they are being carried to the next station. The “Colour Brain” of the Swiss company Baumer will also check the dimensions and squareness before the panels enter the edge processing workcell. A bar code label applicator will now apply the barcode. After that, the parts will be stored in the IMA RL-V storage shelf unit. Eleven shelves will allow up to 50 parts to be temporarily stored depending on their sizes. This will decouple the sawing and edge banding processes from each other and allow unrestricted flow of material. The Vlotho based software specialist 3TEC will provide the necessary line supervisory system.

Assmann uses laser technology for optical zero-joint

Assmann is now using laser edges with optical zero gap. Dirk Aßmann: *“We are also absolutely confident of the quality of this type of edging.”* A workpiece passes through the one-sided Combima up to four times, depending on the requirements of the long sides that need edging. In order that the different number of machining passes function well, there is a conveyor belt with two levels in some places. On the way to their second, third or fourth processing stage, the parts are on the lower level, while new parts from the sorting facility are fed onto the upper level by lowering the conveyor belt. Running at full capacity in a two-shift operation, the new plant turns out up to 2,000 parts made in batch size 1. This results in significantly reduced processing times, which has a positive effect on the overall process. *“Until now, processing an order from prefabrication to final assembly took five days”* explains Dirk Aßmann, describing the old methods.



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**Network Innovation Partnership
with Hunger, Leitz, Rehau and Riepe
develops new technique:
AEK Unit with milled profile scraper 5.1
on the BIMA Gx50**

Perfect high gloss edges in stationary technology

Now that it is no longer a problem to laser edge high gloss parts in through feed technology, high quality products for the furniture industry can be produced much more efficiently and cost-effectively. Gone are the days when the workpiece had first to be machined and then painted, together with the edge. That was the only way to obtain a continuous high-gloss finish, where the same high gloss appeared on the milled radius as on the rest of the workpiece.

Innovation Partnership

The entire furniture industry must thank the united efforts of the Innovation Partnership between Hunger, Leitz, Rehau, Riepe and IMA, a specialist in the production of furniture manufacturing machinery, for this technological success. Using the jointly developed duo-scraper, not only has high-gloss edging been greatly improved with laser technology but also a new standard for the industry has been set. And this technology is certainly needed, if you want to meet the demands of current trends. Because more and more customers are looking for furniture with highly polished surfaces, whether in the kitchen, the bathroom, the living room or the study. This new technology can meet these needs – with a quality that is at least as good as the conventional painting method, but costing much less to produce.

Previously available in through feed technology, but now in stationary technology too

Immediately after the two years of development required before reaching series production for through feed technologies, the same team of specialists gave themselves a new task. The goal this time was to develop the same edge quality for machining sculp-

tered surfaces with high-gloss components in stationary technologies. Such complex problems are best worked on with the knowledge of, and at the same time for the benefit of, all the participants in a functioning network structure. They had already been tested and were well established. Their ambition and innovative ideas meant that the result was not long in coming. They have reached their goal, and are presenting a machine with laser technology for processing high gloss surfaces at the IMA stand at LIGNA 2013: Anyone interested will be thoroughly convinced if they come to Hanover in May.

The basis of the process:

A BIMA Gx50 with gantry drive

Flexibility, speed and the highest quality standards at each step of machine-based furniture manufacturing: This is how success will be measured, and achieving it will be a guarantee of competitiveness and high machine availability. To meet these requirements, IMA developed the new BIMA Gx series as a moving gantry machine with gantry drive. The Gx50 and Gx60 series were developed for industry and craftsmen, and have many applications – furniture fronts, worktops, stairs, cladding, lightweight building panels and even aluminium or plastic profiles. At LIGNA, a Gx50 is to be used as the basis for processing high-gloss edges.

Several units employed for one application can be replaced by the 5-axis robot head. An investment that pays off quickly: Less downtime by eliminating constant tool changes. As an alternative to the 5-axis head, 4-axis machining also allows everything to be done – milling, sizing, profiling, grooving, cutting and drilling wood materi-

als, plastics, composites and lightweight materials. Other add-on assemblies are integrated into the drill head. In addition to sizing and milling, functional and decorative edging materials can be attached to the narrow surfaces of both straight and curved workpieces.

High quality, uniform appearance with Laser Edging

Manufacturing formed parts with zero gaps using the patented IMA Laser Edging system results in a high quality, uniform appearance that does not appear aged or worn. With unbeatable advantages for the processor – the availability of the machine is increased significantly compared with conventional bonding units, due to the elimination of the need to heat up, change the adhesive, and undertake expensive cleaning operations. Thanks to its integrated extraction and filtering, the environment is protected and energy consumption reduced. These unbeatable advantages can now be enjoyed in stationary systems too, thanks to the development by the Network Partners in the high gloss sector. The exhibition machine at Ligna in this case has a 3 kW diode laser.

AEK technology with milled profile scraper 5.1

For this purpose, the team developed the patented AEK unit with integrated milled profile scraper 5.1. AEK stands for "Automatisch einstellbares Kombinationsaggregat" – automatic adjustable combination unit – and is a patented development by IMA. After lasering, the special cutting geometry of the milled profile scraper 5.1 produces a surface that is prepared for the high gloss, which is further worked by subsequent polishing and cleaning. The



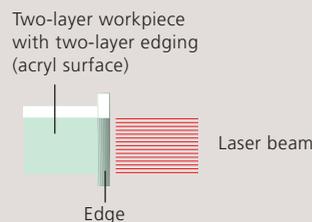
The new and patented AEK fine finishing unit is a trend-setting technology for combined fine finishing with an extraordinary quality.

surface is only very lightly roughened by the scraper. Once the radius has been milled, the surface is polished with a waxed polishing wheel at a 45° angle. The oscillating movements allow the entire width of the buffing wheel to be used. Using the same unit, a cleaning cycle follows resulting in the desired high-gloss edge, which cannot be distinguished from the rest of the high-gloss material. A further refinement in connection with the AEK unit is the integrated edge thickness measurement, which takes place before the milling process, the results being used to ensure the best possible milled contour. The data is transferred automatically to the AEK, where it is processed to enable any corrections that may be needed to be made.

Buffing unit for cleaning and polishing



Acrylic fronts with glass look



Now possible with special decorative edges and IMA Laser Edging

Just as high-gloss fronts are currently right at the top of consumers' wish lists, glass surfaces are also enjoying great popularity. Using special decorative edges and IMA Laser Edging, it is now possible to produce high-quality, transparent glass look designs with acrylic materials. And at much lower production costs than real glass. The problem of processing glass is that the work needs to be very precise. The glass panel must fit exactly when it is joined to the work piece. You can not just grind it. Reworking acrylic is considerably less problematic, as it can be ground even after it has been pressed. The glass look acrylic front can be perfected with special decorative edges, which is applied using a laser procedure. The edge is in two parts: The thickness of the acrylic layer is transparent, while underneath the colour of the workpiece is used. Thus the edge with the acrylic layer on top can be bonded permanently and transparently by Laser Edging and reworked if necessary.

The glass look high gloss effect thus produced is an affordable alternative to processing real glass, and has only become possible thanks to the development of new edging materials and laser technology.

Performance.CUT – reduce cutting costs

The Performance.CUT provides a solution where space is limited

To ensure that the cutting process is economic, even for small quantities, IMA has implemented the powerful technology used in the BIMA Cutting Center in a new, more compact and less expensive machine:

The Performance.CUT provides optimum cutting performance at a more favourable price, even in very small spaces.

The precision cutting of rough cut components made from standard panels often develops into a cost trap. Sawing technology struggles to produce work pieces in the order required. It results in a lot of left-overs and the process is very time consuming. Nesting machines do not have these disadvantages, but produce a lot of costly sacrificial panels and the renovation that is sometimes associated with them. Considerable flows of exhaust air are required for effective chip removal, in order to create a reasonably clean cut.

The BIMA-Cutting-Center from IMA has revealed a long-established method for achieving production that is as effective as it is economic. This solution, using milling technology, was designed for bulk quantities, combining the advantages of nesting machines with the speed of sawing, thus getting rid of all the well-known disadvantages of the previous ways of working. A smaller version, the new Performance.CUT is now available and is the ideal machine for cutting around 800 up to 1,500 parts per shift, depending on the cutting plans involved. The result is a precise manufacturing method for continuous machining.

A milling cutter separates each blank from the standard panel at high speed. The automatic tool change ensures that blunted tools are replaced quickly. This avoids the downtime that is unavoidable when using sawing methods. Unlike nesting methods, the Performance Cut moves the starter panel in the Y-axis whilst the milling tool operates in the X and Z directions. This means that the cutting area is limited to one line. Sacrificial panels are thus a thing

of the past, and the Performance Cut brings you the possibility of nesting the cutting plans. This is ideal for chip removal.

During the detailed design of this machine, IMA designers also looked at the issue of extraction. The aim was to construct as clean a machine as possible, which would produce a clean cut. To achieve this, the processing area was encapsulated and fitted with extraction at the top and at the bottom. Even limited extraction flow volumes are able to keep the cut parts and the machine free of dust and shavings. The reduced energy consumption used in extraction and optimal utilisation of the panels makes the machine very efficient in its use of resources.

The starter panel is guided by several grippers on the rear and one side edge of the panel. The panels are cut safely and accurately until all the parts have been produced. The last separating cut to release a blank is always carried out when the workpiece is not moving and is securely fixed. The machine is very easy to automate. The support table is free from above for loading the starter panels with the help of the loading gantry. The feed is by roller or belt conveyor and can be from behind or from both sides. The subsequent stacking can be

done manually or with an automatic stacking system, or the parts can be transported on a conveyor.

Behind the output conveyor, a sufficiently large brush table is positioned to act as a buffer and the milled parts are re-assembled there. This creates a “part carpet”, similar in appearance to nested components. A handling unit can be used to rearrange, rotate, and re-align the items.

Where removal is by hand, the Performance.CUT has the facility to fetch left-over panels from the output side – the lateral grippers are then used in the output section. The design of the Performance.CUT is very open. The design of the standard panel feed, the treatment of remnants and offcuts, and the cut parts themselves can be individually adjusted to suit the operating environment, the degree of automation and output requirements.

Materials and workpieces in the machine are handled very carefully. This makes it suitable for all types of coated or foil-faced materials and also for raw particleboard. Door front materials with a high gloss or matt coating with a protective film present no problems.

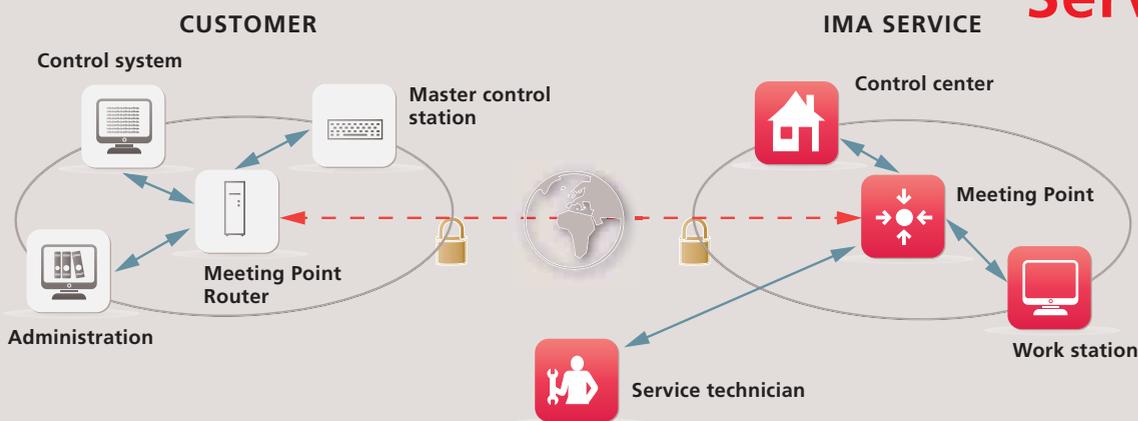
A milling cutter separates each of the individual raw parts at a high speed from a standard-size panel.



High-light



The new Performance.CUT – perfect cutting for approx. 800 up to over 1,500 parts per shift depending on the cutting plan



Service Platform 2.0 with new functions

With the current Service Platform 2.0, IMA provides a very effective instrument to keep the production capacity and technical availability of the machines at a constantly high level. Using the services offered on the platform also secures a sustainable increase in the lifecycle of the machines. In addition to the latest optimizations, the new Version 2.2 also offers new functions for more transparency.

The Management Cockpit is the central console for all actions on connected workcells. The graphical scheduling board allows users to instantly view current and scheduled jobs, visualized by traffic lights, for all machines connected to the network. The machines are linked in the network via the

meeting point router which also allows the integration of workcells governed by their own specific remote maintenance system. Quick links via tabs allow for fast access to other tasks such as creation and management of the new list of personnel. It contains the names of those employees the IMA Service team can contact fast and directly whenever required. Maintenance plans are now easier to optimize, they can more easily be provided with certain criteria, and filter functions allow the output to be filtered. The user can create and manage his own specific maintenance instructions for units built at his premises or supplied by external manufacturers.

Management of spare parts store and integration of your own maintenance organisation are two other functions that can increase the efficiency of the processing plants still further: The management tool is specifically suited to the requirements of consignment stocks. Inventory management with booking in and out of parts and creation of accompanying papers, of return delivery notes and of material orders can be carried out with this tool. Your own maintenance organisation as well as IMA can be integrated in the ticket system. Maintenance support is now also available for other fields of operation; notification, planning, scheduling, execution and management can thus be integrated in a consistent and proven scheme.

Efficiency and perfection are the central topics of the Network. In Hall 26, you will find the most advanced machine technologies from panel sizing to the fabrication of ready-to-assemble furniture components. High-end machines for all operations on the way to a finished furniture component are combined in the processing plant for batch size 1 production which constitutes the heart of our trade show presentation.

IMA

■ BIMA Gx30 R Typ 130/530 [1]

Machining centre with a new machine concept in true solid gantry design. Maximum processing quality due to the vibration absorbing machine bed. Equipped with a compact robot head for flexible 5-axis processing.

■ BIMA Gx50 E Typ 160/630 [2]

Machining centre in gantry design with IMA Laser Edging unit and additional units for processing high-gloss panels completely, right down to the radiused areas of the edging tape. This innovative machine technology produces a homogenous optical appearance of "seamless components".

■ Performance.CUT [3]

Efficient panel sizing with minimum floor space requirements. IMA offers a flexible cutting solution that is able to efficiently handle also small batch sizes, at a production capacity ranging from approx. 800 to more than 1,500 parts per shift depending on the cutting plan. The dynamic router axis enables high performance of the work-cell with an excellent manufacturing quality.

■ IMAGIC TA [4]

High-volume drilling machine with exchangeable gearboxes. The servo-controlled drill axes allow for maximum quality at the greatest possible feed rate. Simple control of the processing parameters in the control system

■ Novimat /I with a diode laser [5]

for high-quality edge processing with a comprehensive modular system of units. A heavy-duty base frame provides excellent conditions to achieve the most accurate machining results, even more when the optional Laser Edging process is integrated

BATCH SIZE 1 [6]

Novimat Performance.one/ sorting device with robot/ single-panel return conveyor and KKL 120 stacker

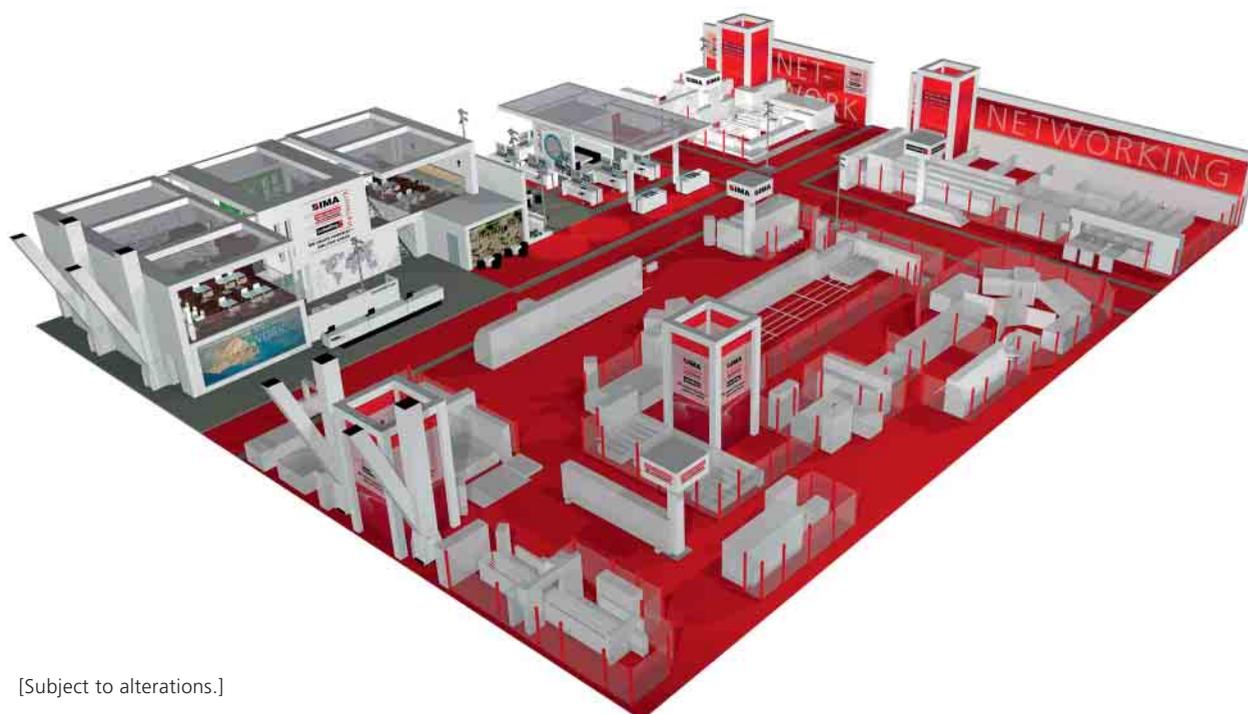
At the LIGNA, IMA will show a continuous process chain consisting of a "Performance.one" edge processing line, a sorting device with robotized feeding, a single-panel return conveyor and a stacker. The workpieces are then directly transferred to the *Priess & Horstmann* drilling and assembly line. A holistic manufacturing system for true batch-size-1 production.

Hall 26

Stand D 63 – 65

D 82

E 59



PRIESS & HORSTMANN

■ Drilling and assembly machine BAT-DTW-CNC for batch production of carcass parts [7]

Vertical drilling from above and horizontal drilling, glueing and doweling into the traverse edge of the panels. Drill-, milling and routing processing up to 6 sides in one pass of the panel is available optionally.

■ Drilling and assembly machine BMA-DLS-CNC with automatic feeding of the panels [8]

Inserting of fittings automatically on all parts. Supply of the fitting via vibration feeding systems and inserting according to the pick-and-place principle.

■ Carcase press KP-4-CNC [9]

Press for all types of carcasses for base-, wall- and tall cabinets. Feeding of the side panels into the machine is performed automatically. Depending on the construction of the cabinet it will be pressed in horizontal or upright position.

■ Drilling and assembly machine BAT-TAX-CNC for front processing [10]

With linear axis system for processing doors and drawer fronts on the upper and lower surface.

SCHELLING

■ Cut-to-size saw fh 6 [11]

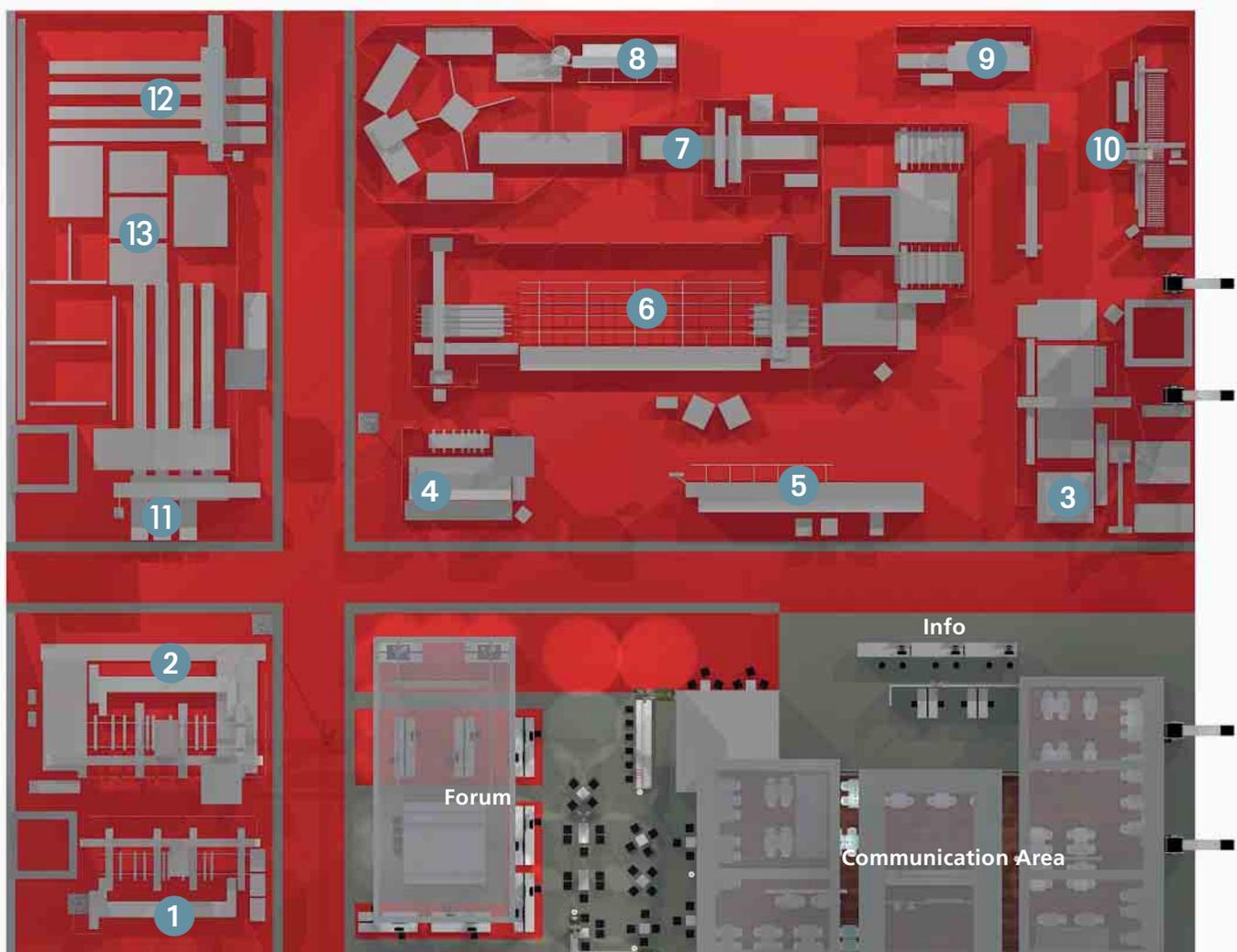
- High-capacity cut-to-size saw with automatic infeed
- Infeed via area storage system with automatic refeeding of remainder parts
- Flexible and quickly deployable for single board cuts and large packages
- Drive concept "Evolution" with integrated guiding system for chips and splinters
- Powerful 21 kW saw aggregate with rack-and-pinion drive
- Short cycle times for high production output

■ Cut-to-size saw fh 4 [12]

- Compact cut-to-size saw with automatic infeed – in combination with an area storage system
- Flexible and quickly deployable for single board cuts and large packages
- Increased performance with automatic infeed, separate push-off carriage, turning device, twin feeder "Duplus2"
- Powerful saw aggregate with infinitely variable height adjustment for optimal saw blade projection

■ Area storage system vs [13]

- Area storage system for automatic storing and commissioning of board-shaped materials and for feeding Schelling cut-to-size saws.
- Increasing of productivity by continuous feeding of the cut-to-size saw
- Free definition of storage areas in homogeneous and homogeneous-dynamic stacks, nonhomogeneous stacks, cover board stations, remainder stations, pre-commissioning and commissioning areas.
- Unmanned operation of the storage system
- Automatic handling prevents damages at the boards
- Up-to-date control software "StorageManager 2.0"
- Fully automatic data synchronization with Schelling optimization software "HPO"
- Integrated remainder board administration
- Manual block storage administration



**At the large booth of *the Network*
in Hall 11, you will find industry-specific
solutions for small shops.**

IMA

■ BIMA Gx30 R Typ 130/430 [1]

Machining centre with a new machine concept in true solid gantry design. Maximum processing quality due to the vibration absorbing machine bed. Equipped with a compact robot head for flexible 5-axis processing.

■ Novimat contour [2]

The Novimat contour offers the full range of equipment at industry standard level and at an unbeatable price-performance ratio for getting started with high-performance oriented edge processing. Equipped either with a contour trimming unit (CTU) or with the KFAx20 contour milling unit, it can produce all panel edges with an excellent surface finish.

■ Advantage 400 L [3]

High-end edging quality and high performance through innovative technology. Fully equipped edge processing machine for small shops with a new end trimming generation i.e. rotary end trimming. Latest technology with IMA patent.

■ Advantage 320 [4]

Edge banding machine with cumulative IMA technology in the smallest possible floor space, at an unbeatable price-performance ratio.

PRIESS & HORSTMANN

■ Info terminal [5]

SCHELLING

■ Cut-to-size saw s 45 [6]

– High-capacity cut-to-size saw for cutting straight and mitre cuts up to 46° (Patented!)

– Powerful saw aggregate with rack-and-pinion drive

– Quick sawing cycles for high production output

– High accuracy of cuts and angles

■ Area storage system PFL [7]

– Area storage system PFL for automatic storing and commissioning of board-shaped materials and for feeding Schelling cut-to-size saws

– Increasing of productivity by continuous feeding

– Free definition of storage areas in homogeneous stacks, nonhomogeneous stacks, cover board stations, remainder stations, pre-commissioning and commissioning areas

– Automatic handling prevents damages at the boards



Hall 11
Stand D 49



High-light

Advantage – the finest edge processing

Edging machines from the IMA Advantage Series provide a reliable service in many woodworking shops and small industrial producers. Their accuracy and durability make them a safe investment. Guided by a desire to always offer their customers the best, *the IMA technology offensive* has redesigned these machines. That they achieved their goals is evidenced by the increase in the already high quality of workmanship, improved ergonomics, reduced energy requirement, reduction in space required and simplified operation and maintenance.

The moment you see the Advantage, the new operating philosophy is revealed. The new 15-inch touchscreen layout ensures rapid learning and targeted input. All the important data is clearly displayed on one page. Marked changes can be found beneath the Advantage's attractive exterior. An LED strip projects its bright light over the entire length of the machine, on all the units, and in the corners, illuminating the optimised jointing cutter. With this new design, reversing the two opposing milling motors is completely free of vibration. This generates a very even milled surface, assisted by the redesigned, efficient extraction. The advances in the gluing system further improve reliability, simplify maintenance and reduce the cost of servicing. Changing the glue is quick and easy with the proven quick-lock system.

The IMA technology offensive is most clearly visible in the end trimming units. As an alternative to a pneumatic, single-engine unit – with saws on both sides of the motor – a new development is employed that saves space and cuts the projecting end at right angles or chamfered, with almost no contact. Even the “sharpness” of the cross cut can be altered from the control panel.

Improved access to the post processing units is another of the improvements. Cleaning and maintenance can be carried out more quickly. With the newly designed probe movement and the option of triple rollers, pre-drilled components, such as those produced in nesting, and those without right angled contours, can be profiled or chamfered. Even the SKF radial-arm contour-trimming unit has undergone some *fine tuning*. To automate the machine com-

pletely, IMA has now extended the automation package to cover the scraper units. This unit can now be finely adjusted by a program or in real time on the screen, contributing to further reducing setup times.

Structured workpiece surfaces, or those with high gloss or matt finishes, are becoming more popular. The last two are often covered with a protective film. The new flat scraper is prepared for such situations.

IMA is able to cover the entire range of edging technologies with the four machines, the Advantage 220 L, 320, 400 and 400 L, all of which can be adapted to individual applications when required.



A row of LEDs emits a bright light on all units along the entire machine

An all-rounder for stationary machining: **BIMA Gx30**

**At the LIGNA, IMA will present
the latest generation of BIMA machines
with gantry drive**



LED technology – safe and fast setup as a standard feature (saving up to 70% of the working time)

The East Westphalian high-tech specialist for innovative machine tool technology for furniture manufacturing is a trusted partner for both industrial users and craftsmen, and continues to impress with advanced developments that set the standard. At this year's LIGNA, IMA is presenting the new BIMA Gx series, a machine concept that may soon develop into the standard for professional furniture production. Greater dynamics and precision are among the features of the Gx series, which are fitted with a moving gantry drive.

Highly dynamic and exceptionally low vibration

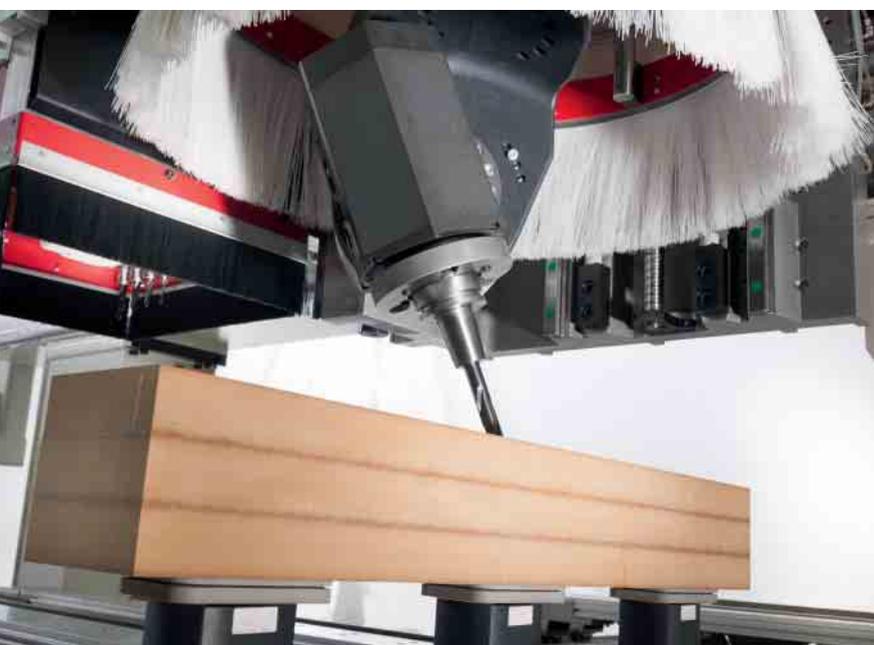
This gantry machine offers woodworking businesses a truly universal machine. The BIMA Gx30 makes an impression even from the outside, with encapsulated processing supports. Taking into account the latest legislation, panoramic safety windows allow the machine operator an uninterrupted view of the machining area. He is also protected against dust and the risks asso-

ciated with cutting. The gantry drive with servo motors on both sides of the portal moves the X axis of the machine highly dynamically and with exceptionally low vibration. Widely spaced guide elements ensure that the high quality of the drives result in a significant improvement in production accuracy, and, especially when milling, a degree of surface precision that is hard to beat.

Wide range of processes

High performance milling, sawing and drilling, and in future edge gluing as well – a wide range of processes is available to the BIMA Gx30 user: The standard version provides an eight-tool changer that moves the main spindle in the X and Y directions. As an option, the tool change positions can be further increased. The indirect tool exchange contributes to a significantly reduced downtime. The operator positions a new tool in a handily positioned transfer location and, at the appropriate moment, the machine fetches this tool with the

Newly developed 5-axis head with the A axis rotating from 100° to 40°



8-station tool changer with servo axis of rotation, travelling with the machining head in X/Y directions



High-light



The highly dynamic low-vibration gantry drive with its servomotors on both sides of the gantry moves the X axis of the BIMA Gx30.

empty spindle for further machining work. While any drilling can be carried out with tools from the magazine, the fixed drill heads provide a rational means of performing predetermined drilling operations.

Adapted to the space available in the workshop

With four table lengths for a workpiece width of 1,300 mm (available with all units) and a workpiece thickness of 250 mm, the BIMA Gx30 offers the ideal combination of workpiece dimensions and space required in the workshop. The tables range from 3,300 to 6,300 millimetres. The workpiece width may be up to 1,410 mm for pure 20-mm milling. On those console tables

that are equipped with vacuum cups, a push with the knee on an ergonomically positioned mushroom button releases or actuates the clamping operation. Within the funnel-shaped machine bed an optional chip belt conveyor disposes of all chips and manageable offcuts quickly and safely. Despite all these features, at a height of 2,600 mm the BIMA Gx30 can also be used in low buildings.

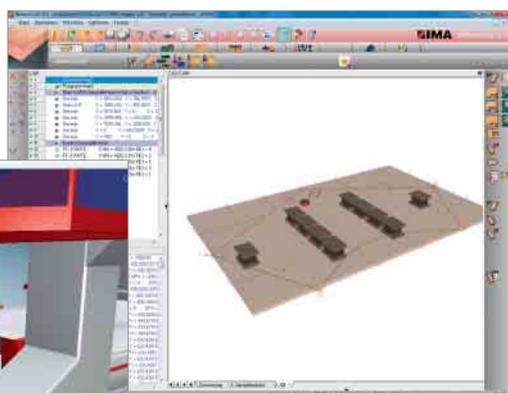
Flexible and sophisticated

The compact Gx30 series excels with its exceptionally flexible range of applications, its sophisticated, proven technology and its ease of use. Various high performance adapter units mean that almost any applica-

tion can be accommodated. The Gx30 gives you a clear competitive advantage with highly profitable production processes and a consistent level of quality.

Flexible and fast: IMAwop

3-D simulation included as a standard feature (right-hand picture); optional 3-D simulation (picture at the bottom)

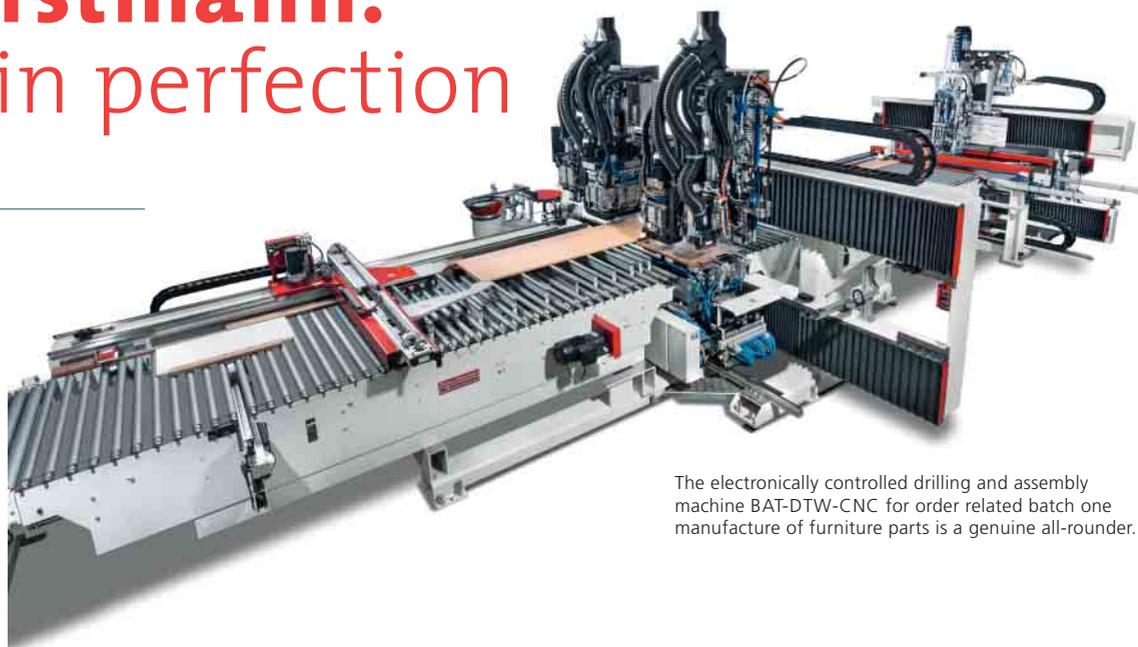


Machine control is typically performed using the proven and powerful IMAwop with an easy to use graphical user interface. IMAwop has long become a standard in many companies; the latest version now even further reduces the time it takes to produce the first components. The software which has proven itself in actual use enables flexible production of various parts.

Tool movements as well as machining processing operations can be simulated in 3-D and hence allow for the highest possible process security. Specifically when the 5-axis units are used, IMAwop will help the programmer get things on the right track quickly. The Windows®-based user interface runs on a control system that is compatible with all common network solutions.

Priess & Horstmann: Technology in perfection

**Plant engineering for
economically efficient
furniture production**



The electronically controlled drilling and assembly machine BAT-DTW-CNC for order related batch one manufacture of furniture parts is a genuine all-rounder.

As a leading manufacturer of machine lines for order batch production of kitchen, bathroom, living room, bedroom and office furniture, Priess & Horstmann is one of the top companies for drilling and assembly technology in the world. With around 100 highly trained specialist personnel, the company has been producing high-tech engineering solutions for technically demanding furniture manufacture since 1970. The design and development departments at Priess & Horstmann exclusively develop bespoke solutions for the processing of fronts, shelves, side and base panels, as well as for machine line feeding and handling technology for carcass assembly.

Technology in perfection – this is what the employees at our family enterprise aspire to every day, allowing us to produce precise individual machines and perfectly compatible, completely interlinked machine lines for batch one production. All the necessary individual components from the production range are tailored to the customer's individual

requirements and combined to produce an economically efficient production line.

Nothing is left to chance: Every step is carefully planned at the modern company in Unterluebbe in East Westphalia. High-tech solutions for a very dynamic market have to provide the user with innovative technology and economically efficient production results. This is achieved by rationalising the design processes, standardising the assembly groups and limiting the range of parts. This results in a fully developed modular system with products that can be combined and supplemented as required.

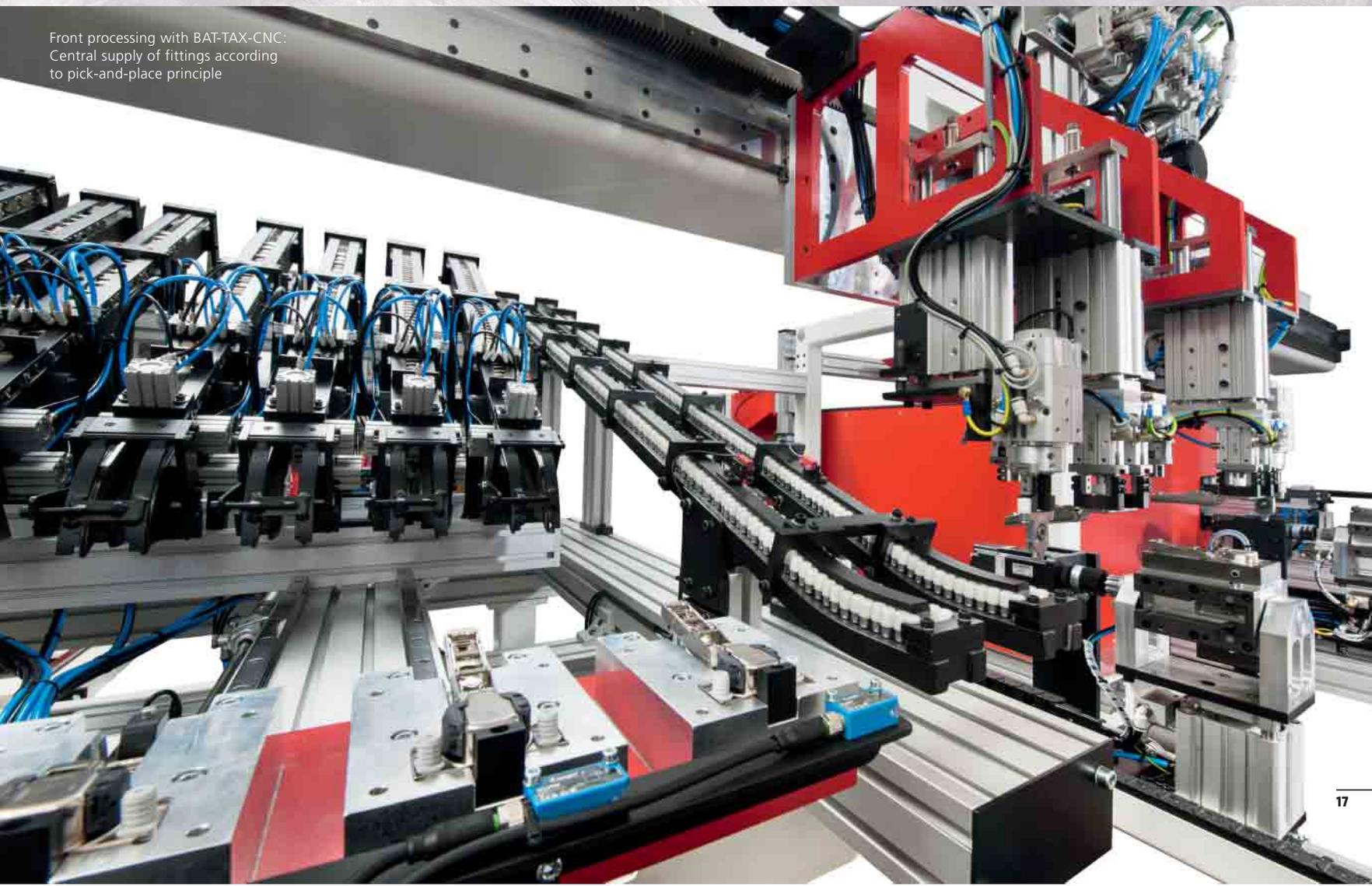
Perfect technology and professional expertise

Priess & Horstmann decided a long time ago to manufacture all crucial components themselves in order to guarantee uniformly high quality standards in the long term. This principle is applied to the control electronics, mechanical manufacture and pre- and final assembly, as it is the only way to achieve absolute precision and high availability.

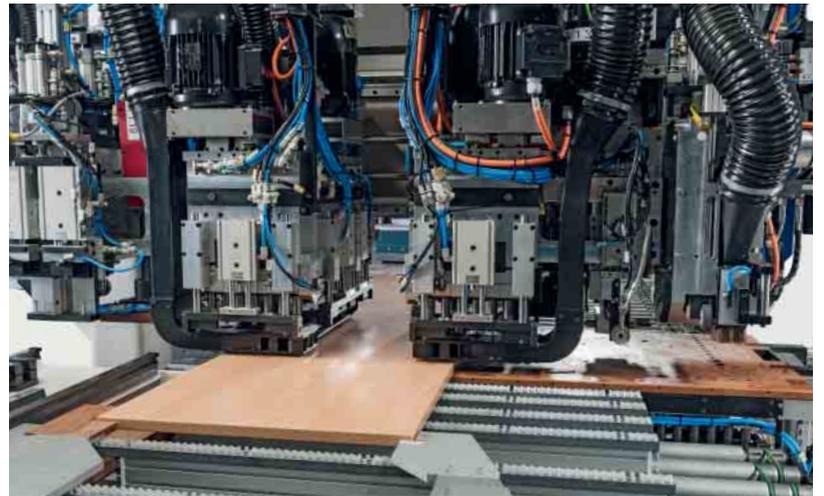
However, convincing technology is not possible without professional expertise. The Priess & Horstmann specialists are an efficient team of professionals with expert knowledge in all the necessary fields. Each and every one proves this time and again with every order he or she carries out. The same applies to the service support provided for the care of the machines in daily operation at the customers' premises on all continents. Planning, inspection, installation, support and service are always managed by a responsible engineer who is available to answer any questions or respond to any requests the customer may have. Mutual trust and reliability are the key to a long-term business partnership.



Front processing with BAT-TAX-CNC:
Central supply of fittings according
to pick-and-place principle



Example of the equipment of a BAO-DL-CNC processing
support for base cabinet side panels



Processing station BAT-DTW-CNC with
cycled workpieces

Priess & Horstmann
Bohr- und Einpresstechnik

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Front processing
Side panel processing
Shelf/base panel processing
Feeding stations
Carcase production
Production lines

Schelling: The specialist for large volume and batch size 1

At LIGNA 2013 in Hanover, Schelling shows how woodworking operations will industrially divide boards in batch size 1 in the future.

Just-in-time production lowers costs all around. Yet how can the apparent contradiction between industrial and individual production be overcome? Schelling provides an answer to this at LIGNA – the global tradeshow for the woodworking industry. But the cut-to-size saws and plants, as well as their periphery, were also further developed for volume production and handcraft. At LIGNA in May, Schelling once again fulfilled its role as the technological leader for cut-to-size saws and plants. In particular, batch size 1, saw-storage combinations and cutting optimisations directly address the needs of the various user groups concerned with cutting boards made of wooden materials to size. The booth in hall 11 focuses on handiwork, while the booth in hall 26 is for industry.

Flexible cutting plant for batch size 1 production

In recent years, Schelling has dedicated considerable resources to the issue of batch size 1 cutting and is currently the only producer to offer a highly flexible and powerful cutting plant for batch size 1 production.

The cutting module, which has already been developed and successfully deployed by the customer, works fully automatically with a variable connection to feeding systems or automatic board storage systems. To expand output, several modules can be linked together and thus already today provide outputs of over 20 pieces per minute in single board cutting operation. In rotary operation, the cutting material is fully automatically fed through the saw multiple times, thus allowing the best possible material utilisation by means of the 3rd, 4th and 5th cutting planes, which used to only be possible with expensive milling technology. The cutting pattern is also completely flexible. The new batch size 1 cutting plant is rounded off with optimal finished part and remnant handling in the periphery area. Of course, the new batch size 1 plant is controlled via Schelling's own software,

thus guaranteeing an optimal process from infeed to part output.

Saw-storage combination

Saw-storage combinations offer numerous advantages and are the cornerstone of just-in-time production. Schelling's own area storage system makes the integration of machine and storage system significantly more efficient. The continuous technology is "of one mould" and provides an absolutely smooth interaction between saw data, storage system and commissioning – without additional data interfaces.

You can experience the cooperation of the fh 6 and fh 4 cut-to-size saws with the Schelling area storage system live at the booth in hall 26. There, the fh 6 is fed in directly from the storage system, while the fh 4 is fed via an infeed roller conveyor. Parts and remnants can be labelled automatically prior to cutting. Large remnants are sent back to the area storage system, while small remnants are stored separately via the XBoB remnant storage system, which is fully integrated into the control technology. Turning device, 3rd phase cut, second feeder via Duplus2 – many details show the future



of how boards made of wooden materials can be efficiently and automatically cut to size.

Handiwork:

mitre-box saw and area storage system

For demanding handiwork, Schelling provides a live demonstration of the s 45 cut-to-size saw with mitre cut in combination with an area storage system. The Schelling s 45 revolutionizes cutting work processes wherever mitre cuts are required. Mitres of up to 46 degrees can be set with a continuously variable control. Boards can now be effortlessly mitred by only one worker in one process step. In practice this means up to three times lower cutting costs per running metre. This also demonstrates that Schelling's saw-storage combinations from one source simply cut better for process and productivity – in the double meaning of the word.

Software: user-friendlier and faster

Schelling also announces new breakthroughs in the area of software. Three new releases of its own programs will be presented to the public at LIGNA. The HPO 4.0 cutting pattern optimisation boasts new features, a dialogue operator guidance and a new terminal server solution. The last of these provides advantages in reducing data volume and data management.

The XBoB 4.0 remnant management program brings even more efficiency in many details. It helps to provide reliable intermediate storage for remnants, to reuse them in the cutting pattern and to locate them lightning fast in the remnant storage

system. Automatic labelling, integration into the cutting pattern optimisation, simple handling and numerous features are a matter of course.

You can manage the Schelling area storage system with the new version of Storage-Manager 2.0. This control software uses a new efficient storage logic for storing, commissioning and allocating boards.

3-D simulation prior to purchase

Schelling will round off its appearance at LIGNA in May 2013 with new production plant developments in sorting, stacking and robot technology. The new 3-D simulation from the global market leader in sophisticated cut-to-size saws and plants is ideal here. That's because the computer simulations make it simple to represent the output of machines and plants already in the proposal phase. Graphically prepared cycle times, quantity definitions and many other data can be realistically forecast.

If you want to be among the first to tangibly envision the future of cutting boards made of wooden materials to size, then you have to make a pilgrimage to Hanover in May, to Schelling's two booths at LIGNA in halls 11 and 26.

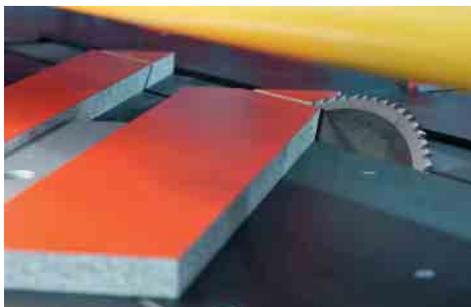
Facts

Schelling, global market and technological leader

Schelling is the global leader in cut-to-size saws and plants. These capital goods are characterised by solid construction, power, precision, productivity, reliability and durability. Perfect solutions for profitable everyday production.

Schelling Anlagenbau GmbH is headquartered in Schwarzach, Vorarlberg. The Austrian company employs 400 people in development, production, and service at ten locations around the globe.

The product line includes cut-to-size saws and -plants, as well as automatic area storage and stacking systems for wood materials, and precision saws and systems for plastics, NF-metals, ferrous metals and PCB materials.



schelling

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A quick and easy upgrade: The IMA EnergyBox saves up to 60 percent

With the IMA EnergyBox, you can significantly reduce energy consumption in manufacturing. At the same time, it makes a worthwhile contribution to being an environmentally sustainable business. Hardly any machines are used continuously throughout the working day. There are always short interruptions for preparation and post-processing activities, and inevitably leads to unproductive periods. And to prevent them adding to energy costs as well, IMA has developed the Energy Box that can be used with all IMA machines. In unproductive periods the box automatically switches the machine to idle mode. The machine operator can continue to carry out the usual operations as before. The period of time

before switching off can be individually programmed. A quick re-start and return to the previous operating state is ensured by activating the emergency switch, The IMA EnergyBox is a useful method of achieving a substantial optimisation with little effort. The upgrade is simple and suitable for self-installation.

Performance at a Glance

- Increases energy efficiency
- Improves CO₂ footprint
- Minimises emissions
- Minimises costs of non-productive time

Energy-efficient production



The protection of the environment and energy efficiency are standard features of IMA technologies and machines. Examples of this include the integrated standby mode, process-dependent control and optimized extraction of the processing units, significant reduction of compressed air consumption and also energy-efficient drive technology.

IMA Laser Edging



The IMA Laser Edging technology is bound to the use of Rehau edging material without applying for a licence/right from third parties.

International Trade Fair participations

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



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IMPRINT

iMagazin – the IMA magazine for customers

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