IMA Asia expands its sales and service network

Interest in IMA technology continues to rise

Photo: Yeo - 2109100

"The Asian market, and in particular India, is becoming more and more important for the high-tech products made by IMA", says Burkhard Sydow, Managing Director of the company IMA Asia situated in Singapore. IMA Klessmann GmbH with head office in Lübbecke, a town in North-West Germany, is one of the market leaders in the production of machinery for the woodworking industry and the small shops. IMA employs a total of about 800 people in more than 60 countries. *"We are particularly pleased with the fact that the interest in our machine technology has been rapidly increasing in the last months. Because this clearly shows that IMA is on the right path in India"*, Sydow explains. In the past, there have been an increasing number of inquiries and also more qualified inquiries from the industry. One reason for this certainly lies in IMA's presence at fairs in India which the company has intensified in the past years. The spectrum of high-tech machines supplied by IMA to Indian customers also shows that the German company with its leading technology has become an important partner to demanding customers.

The Indian Godrej Corporation installed the largest so far supplied IMA COMBIMA edgebanding line ever installed in India. In order for IMA to be able to finish their many projects on the Indian subcontinent fast and efficiently so as to gain maximum advantage for the Indian customers, the company is continuously expanding its sales and service network: *„Here too, the ongoing demand for IMA technology requires us to invest in the expansion of our service and sales team by hiring new employees and setting up training programmes. One important step in this process has been to strengthen the IMA team in Bangalore by recruiting Muralidharan Sunka Gururaja (Murali), who has been supporting the sales activities in India since April 2010"*, says Sydow. In order to be able to provide qualified field support, the Bangalore-based service technicians are currently going through an intensive training programme at the premises of IMA Klessmann in Lübbecke.

International fairs

October	12.10. – 16.10.2010	**Holz, Basel, Switzerland**	www.holz.ch_blank/
	13.10. – 17.10.2010	**Ambienta, Zagreb, Croatia**	www.zu.hr/
	16.10. – 20.10.2010	**Wood Processing Machinery, Istanbul, Turkey**	www.tuyap.com.tr/
	20.10. – 23.10.2010	**Fimap, Porto, Portugal**	www.fimap.exponor.pt/
	26.10. – 29.10.2010	**Woodworking Minsk, Belarus**	www.minskexpo.com.by/
November	05.11. – 06.11.2010	**In-house exhibition Kalsperger, Oberteisendorf, Germany**	www.kalsperger.de
	15.11. – 21.11.2010	**Sajam Namestaja, Belgrade, Serbia**	www.sajam.co.rs/
	24.11. – 27.11.2010	**Tokyo Woodworking Machinery World Fair, Tokyo, Japan**	www.mmjp.or.jp/
	26.11. – 27.11.2010	**In-house exhibition Becker, Bad Sassendorf, Germany**	www.becker-maschinen.de/

[We reserve the right for changes.]

IMA LEADING TECHNOLOGIES

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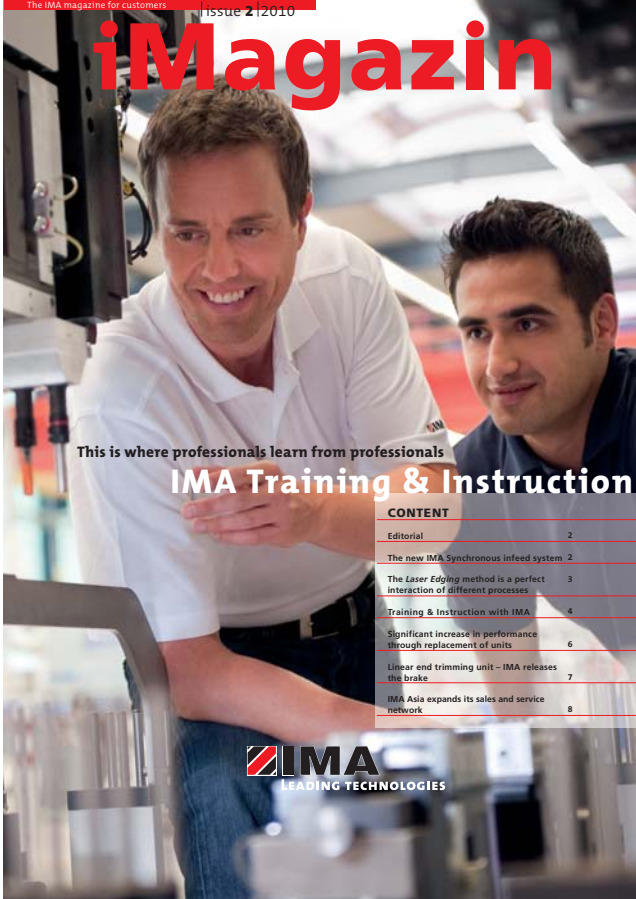

This is where professionals learn from professionals

IMA Training & Instruction

CONTENT

IMA LEADING TECHNOLOGIES

EDITORIAL

IMA trainers and new trainees in 2010

Dear Readers,

Here you find yourself reading another issue of the ›iMagazin‹, filled with news that keeps you informed of events, activities and important dates around the IMA group. For example, the new training programme: with its worldwide network of training centres, IMA offers a compact training programme with many offers directly tailored to the individual needs of the customers to ensure the optimal utilisation of the machines. The ›iMagazin‹ reports on this subject as well as on current product developments: the new IMA servo infeed system allows for even more precision in feeding parts onto the edgebander, and a linear end trimming unit significantly increases the feed speeds of the edgebander.

However, when you take a look at the magazine you will find interesting news not only *about development, training and service* but also about the international branches. In fact, IMA Asia with the head office in Singapore is becoming a more and more important interface for the Asian market. On the Asian continent, and in particular in India, there is a constantly growing interest in IMA technology. Please read the following pages for more information on this topic too.

Your team of i.Magazin editors

Products & Market

The *Laser Edging* method is a perfect interaction of different processes

Many reports on laser technology employed to produce a seamless edging tape have already appeared. The result of this manufacturing technique – a joint-free bond between edging and panel – is impressive irrespective of the laser source. But nevertheless it is worth taking a look at the manufacturing processes required upstream and downstream from the lasering operation in order to produce the desired result.

The *laser technology* presented by IMA in 2008 and fit for the market since 2009 clearly shows the importance of a well functioning production chain. As a specialist in panel processing machines and production lines, IMA provides the full bandwidth of services from process automation to stand-alone manufacturing solutions for small shops. And since only the result counts – no matter if you are a big or small manufacturer of furniture –, the perfect interaction of all machine components is of fundamental importance to IMA.

The accurate cut

An accurate cut on the panel is the precondition for a › zero joint gap ‹. Because, in the downstream *Laser Edging* process, the molten mass of the edging tape has only the function to weld the edging and panel together. In effect, the molten mass of the functional layer cannot act as a filler material. Aside from possible aesthetic compromises, this would also reduce its resistance to humidity as well as its shear strength. IMA has developed special hoggers and milling units to allow for the required sizing accuracy. The low-vibration machine design in conjunction with precision linear guides and sophisticated control and drive technology are the prerequisites for smooth and accurate linear cuts.

The *Laser Edging* process

In the *Laser Edging* process, the specific edging tape itself becomes an integral part of the panel surface so that a permanent joint is made. In order to enable this ›welding operation‹, a defined film layer on the backside of the edging tape needs to be melted by a laser. Strong pressure rollers press the edging onto the panel side face, and in this process the liquid part of the edging backside penetrates deeply into the structure of the panel to form an integral part of its surface; then the joint hardens by cooling. The higher the machining accuracy in the upstream process, the better the results of the welding operation. As a result, the edging has high shear strength, good finishing properties and performs better in downstream machining processes. In the end, the reason for this last fact is that no tolerance of any adhesive joint needs to be considered, which increases accuracy because the dimensional settings of the downstream processes can be adjusted more accurately and hence increase the overall production quality.

A further advantage is that no glue residues have to be removed which significantly reduces downtime for cleaning and routine maintenance.

Aside from the *Laser Edging* process for throughfeed systems, IMA will from now on offer this technology also for stationary systems (machining centres)

Since IMA throughfeed systems have been designed in a modular layout for some years now, existing machines can be retrofitted with *Laser Edging* units if required. A compatibility check by the manufacturer will only take a very short time.

The fine finishing process

In order to complete the aesthetic appearance of your panel and laser edging, IMA has developed the ›KFA‹ contour milling unit. Similar to the principle of the ›flying saw‹, the KFA rapidly synchronizes with the feed speed of the panel. Exactly after the unit reaches the corner position, it mills along the programmed contour of the transverse edge to produce a seamless chamfered or radiused corner. Flat scrapers and profile scrapers fitted with material-specific tools perform further fine finishing on the edging.

Conclusion: The Laser Edging process in its own right has already revolutionized the field of joint-free edge banding. An optimal interaction of all machine components combined with process safety is, however, the crucial factor for a perfect end result. This requires technological know-how and application competence of the machine or plant manufacturer to ensure repeatability of quality in every product.

Zero gap

Photo: pixelquelle.com

Products & Market

Synchronous infeed system reduces spacing between parts

High accuracy guaranteed even with small parts

Since the beginnings of the of furniture production on panel sizing and edge banding combination machines, precisely adjusted dogs on the feed chain have allowed for squareness of the finished parts, a system jeopardizing both accuracy of form and maximum throughput. In fact, the dog pitch has so far always required a defined spacing between parts which has reduced productivity. Hence it was never possible to operate the machine at its optimal production rate. Moreover, with increasing life, mechanical wear and tear deteriorated the accuracy of guidance.

Synchronous infeed system makes the use of dogs redundant

This technique, used for decades to feed parts into edge processing machines, has now become redundant through the patented synchronous infeed system developed by IMA, which has significantly increased capacity in the Combima machines. It is no longer dogs which allow for the panel squareness; instead, two alignment pins located on the left and right of the feed chains drive the parts forwards and, in this process, the parts are aligned at right angles to the feed chains.

Faster, more accurate and more flexible – despite high feed speeds

Now parts enter the machine independently of any dog spacing. Only the minimum spacing between parts needs to be observed, which increases the number of parts produced at a certain feed speed. It is not primarily a higher feed speed which increases capacity but essentially the reduction of the unproductive spacing between parts.

Due to its CNC linear drive system with high speeds and minimum cycle times, the infeed system allows very high feed speeds to be attained, as made possible by the latest advances in machine technology. Exact control of speeds has another important effect on the infeed process: the alignment pins approach the part at relatively low speed and then accelerate it to the feed speed.

Less maintenance

Since the wear-intensive infeed using dogs on the chain track has been replaced with the new method, also the large amount of maintenance work formerly required as well as machining inaccuracies are eliminated. The costs which were incurred by these factors are made redundant, and the technical availability of the machine is increased. The Combima machines with the double-side synchronous infeed so far in use all show the advantages of significantly more productivity and cost-effectiveness.

IMA Service

In individual training courses, IMA customers can perfect their knowledge on how to use their woodworking systems. This service is offered in our training centres situated all over the world and attracts a lot of customers.






Training & Instruction:
maximum efficiency and effectiveness with IMA machines

Overview of our training and qualification programs

1 **Programming**	CNC/CAD programming, User interfaces, Electronic/control system
2 **Setup**	Basic machine technology, Linear drive technology, Pneumatics, unit technology
3 **Operating the machine**	Edge banding/CNC machines, Tool change, Basic use of the machine
4 **Applications**	On-site production assistance, Laser technology, Batch size-1-production, etc.
5 **Maintenance**	Fundamentals, preventive and cyclic maintenance, Service Platform/Maintenance Manager

Participants in particular appreciate that they can acquire valuable knowledge to meet in-service requirements through the assistance of professionals. Rapid detection and application of optimisation potentials, target-oriented fault diagnostics and trouble shooting also increase efficiency in the use of IMA machinery, minimize costs and maximize turnover. Participating in training courses will pay off in any case. Every training also contributes to more safety in the production process and increases plant efficiency.

Expertise from practicians for practicians
The offer is intended primarily for
- machine operators,
- service staff (electricians/mechanics/ mechatronics),
- job schedulers (creating part programs and data blocks).

But at the same time, it offers advanced training for experienced operators. The tailor-made IMA training and qualification programme makes operators fit within a very short time so that they are able to make full use of all technical possibilities of the IMA work cells. The training reduces downtimes and creates the conditions for optimal production with high process safety.

Pictures: pixelmaker.com

Individual training – tailored to meet the requirements of the customer
The training contents, place, duration, language and dates are adapted to the needs of the customer. The training will be held either at our training centre in the Lübbecke based head office, at one of the other training centres situated all over the globe or as an in-house event at the customer's premises. The topics are specifically tailored to the needs of the company. These seminars range from a basic overview of CNC woodworking operations to the specific points. The trainers will teach in German or English or, with the help of an interpreter, in the language used by the participants of the course. Mobile training equipment and experienced trainers guarantee high quality courses also for on-the-job training at the site (on-site production assistance).

The trainers have a long-year experience in field support and are trained in accordance with state-of-the-art standards. For the participants, the goal is always to be able to optimally program and operate their processing plants, reliably carry out the commissioning and to allow for fast and efficient fault diagnostics and trouble shooting.

The training programme
Aside from the seminars offered, practical workshops on new technologies & processes and on process optimisation are carried out periodically at the IMA training centre in Lübbecke. Customers can take part in these application training courses to learn how to make full use of the potential of their machines. The IMA course programme gives anybody interested an overview of the training provided at the IMA training centre. Aside from training modules offered on edge processing techniques, the customer can expect a large choice of training courses in CNC programming, IMA handling & logistic systems and drilling machines. Interesting new ideas were mixed with proven courses IMA has provided for years: for example, proven basic knowledge for effective production with CNC machining centres, the Laser Edging process or the component fabrication. Through qualification and further education at IMA, seminar participants will gain an advance in know-how that makes the difference

The seminar programme and individual consulting can be requested at

training@ima.de

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Wolfgang Babina
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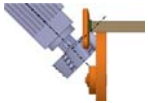


Principle of operation of KFA: Setting up the milling motor, which is tilted at 45°, to the edge profile occurs through axial axis adjustment without tracer wheel change. The setup operation is performed within the time of the panel spacing.

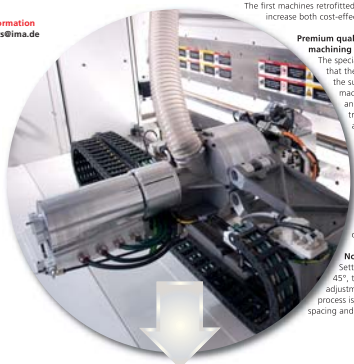
Significant increase in performance through replacement of units

Replacing the old multi-function unit [MFA] with a powerful IMA contour milling unit [KFA] offers many advantages: perfect edge quality, more productivity and reduced setup times

When considering any investment in new machinery, certain factors should be considered; and it is not always necessary to replace complete machines. IMA technology is continually being developed by specialists and through daily use in practice. As a result, IMA is permanently raising the quality and performance standards of machinery for the woodworking industry and the small shops. Whoever plans with IMA can be sure that also those machines in use for a relatively long time will be able to profit from the technical advances at IMA.

For example, edgebanders that use the old multi-function units (i.e. the so-called MFAs) can be retrofitted by IMA service technicians with a substantially faster contour milling unit (KFA). The advantages are obvious: the KFA achieves premium edge quality by tracing characteristics perfectly matching requirements. Modern drive technology increases capacity by up to 66 percent, and the unique system of milling motors cuts setup times to zero. The first machines retrofitted with KFA units prove that these investments increase both cost-effectiveness and efficiency.

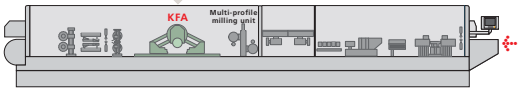
More information
spareparts@ima.de



Premium quality guaranteed by an optimal machining result
The special arrangement of the tracing system ensures that the tracing forces always act perpendicularly to the surface of the part. This guarantees an optimal machining result both for the curved path section and the vertical path of the edge. Moreover the tracer wheel, with a diameter of 140 mm, allows for a perfect surface image.

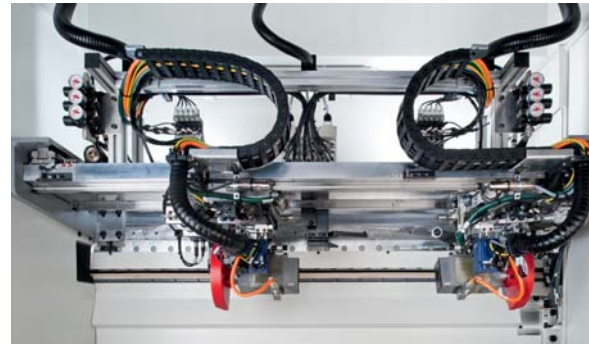
Modern drive technology enables higher dynamics
Modern drive technology allows for maximum dynamics and minimizes wear and tear. The use of the KFA 50 can increase capacity by up to 66 percent. Moreover, the use of direct drive systems with linear motors and torque motors noticeably reduces the number of mechanical wear parts.

No setup time – more productivity
Setting up the milling motor, which is tilted at 45°, to the edge profile occurs through axial axis adjustment without tracer wheel change. The setup process is carried out within the time of the panel spacing and hence increases productivity.



Unit layout for KFA

Linear end trimming unit: *IMA releases the brake*



With the very successful use of linear motor technology, IMA has extended its technological lead in woodworking equipment. One of the latest development steps puts an end to the everlasting fact that end trimming units had a decisive effect on the working speed of edge processing machines.

Replacing pneumatic drives with more advanced servomotor systems considerably increases capacity in production lines, which is, however, still too slow for high-volume lines. The production capacity of a production line is still restricted by the end trimming units, although – from a technological point of view – all other units would allow greater capacities.

High dynamics through linear drive technology
Used on drilling and doweling units as well as on the contour milling unit (KFA), these modern drive systems have proved to be excellently suited for highly accurate and extremely fast operation. Linear motors drives quickly accelerate to working speeds of up to sixty metres per minutes – speeds so far unknown for end trimming units. These movements can hardly be followed with the naked eye. The highly responsive control system makes sure that the stops are smoothly pushed against the surface of the part. This enables also sensitive materials to be end-trimmed with great accuracy. Excellent rates of deceleration and fast return to the starting position allow end trimming units to perform 55 work cycles per minute on a 1080 mm dog pitch. This number shows the actual increase in capacity; in fact, it is achieved for most of the parts in the production of case furniture. These high production rates are obtained with only one end trimming saw for the leading and trailing edges. Also greater capacities for small parts will be possible when a separate unit is put on each edge. For peak capacities with high feed speeds and particularly small spacings between parts, two units for the leading and trailing edges are used. When long parts need to be end trimmed on the longitudinal processing Combima, the new linear end trimming unit will also be run at higher speeds.

Another big advantage of this drive technology is that it does not require any mechanical transmission elements that are subject to wear, such as gears, belt drives or clutches. The units are propelled by the force of magnetic fields, which is not subject to wear either. Additional advantages are created in production lines with automatic optimisation of the feed speed. The new drive technology can respond with much more accuracy to changes in feed speeds. Precise speed synchronisation as well as exact control points – because the speed and hence the position is exactly known at any time – allow for accurate end trimming cuts and smooth manner of operation without damaging the surfaces of the parts. The trimming angle can be steplessly varied between 0 and 45 degrees. Since the end trim stop can also be steplessly positioned, the unit adjusts to all the different edging thicknesses – and hence, also small changes in the actual thickness can be taken care of without manual intervention.

Pictures: pressebilder.com