

WOODNEWS

Furniture and
Manufacturing
Technologies

'RAMU'

**RAMAKRISHNAN ON
THE WAY AHEAD FOR
FURNITURE INDUSTRY**

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REVIEW:

**INDIAWOOD SETS NEW
RECORD WITH 50,800
VISITORS**

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INTERVIEW:

**HONICEL CEO,
HENK KRABBE,
SAYS INDIA ON CUSP
OF CHANGE**

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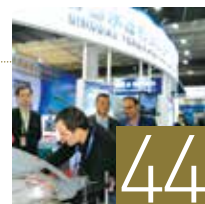


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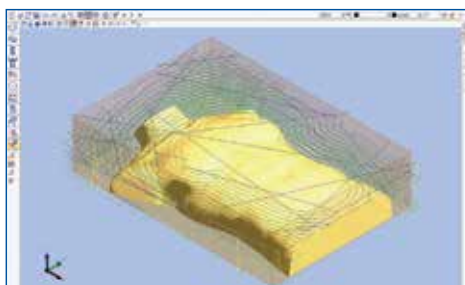
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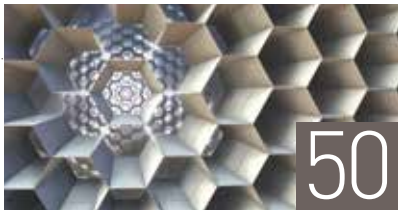
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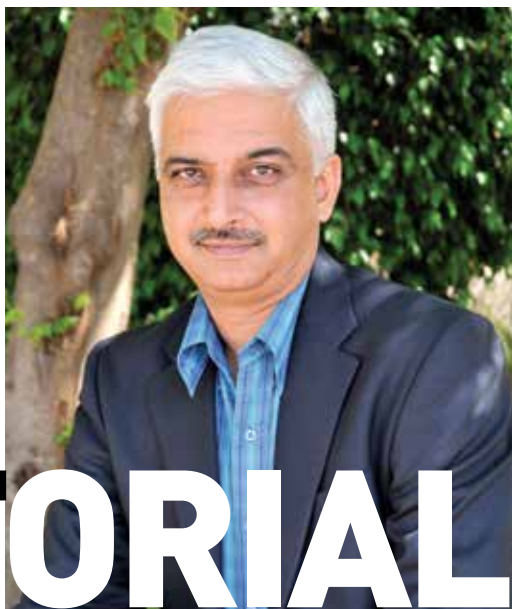
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EDITORIAL

Industry loses some, gains some

Dear Readers,

The loss of 'Ramu-Sir', after eventful decades in the furniture manufacturing industry in India, is still to fully sink in. Recollections of my face-to-face professional interactions with him, to his white-bearded, fatherly presence in public engagements keep haunting me, as they will others who rubbed shoulders with the indomitable man of vision, a man with a noble and selfless mission. What impressed was his knowledge of woodworking, clinical assessment of various situations and his down-to-earth demeanour.

But what inspired awe was his humility, the never-ceasing spirit of camaraderie, and his capacity to assist those that sought it, without reservation. To highlight these very qualities, *WoodNews* had devoted some pages to pay respect to its founding father and hero. His recent interview with me has been transcribed for the benefit of the magazine's readers, and more. Do write to me if you have had a memorable event with 'Ramu' during the course of your professional interactions with him.

IndiaWood 2016 sorely missed Ramu's presence, but his reading of the industry was accurate. Asia's biggest B2B show in the woodworking sector grew considerably in terms of participation and exhibition space. And thank you, dear Readers, for reposing your faith in the exhibition by attending it! If you noticed, IndiaWood is no longer only about the display of new materials and machines. Increasingly, its visitors are also looking to new avenues of business expansion (through the Sourcing Forum and Distributors' Summit), as well as opportunities in knowledge and training.

Job placement firms acknowledge that skill development has gained enormous traction on account of the Union government's renewed push to manufacturing through its 'Make in India' programme. Re-focusing on India's traditional occupations, including woodworking, would potentially create 10 million jobs a year, they stress. It is expected to transform India into a global hub of manufacturing. Skilled workers are required in design and engineering, project planning and execution, operations and maintenance, along with sustainable manufacturing.

In the Union Budget (2016-17), the government has rightly realised that a sustainable growth model cannot be built as long as the rural economy is in distress. In the absence of demand for industrial products all over the world, the growth has to be led by the under-developed infrastructure. The government's emphasis on creation of employment through 'StartUp India' and the skill development scheme are steps in the right direction. I am eager to see how the woodworking industry makes full use of these new opportunities! Until next time...

Dhananjay Sardeshpande

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A close-up portrait of an elderly man with a long, flowing white beard and a bald head. He is wearing a light blue shirt and has a gentle smile. The background is a soft-focus green, suggesting an outdoor setting with foliage.

COVER STORY

'RAMU' RAMAKRISHNAN

A visionary, a missionary

Ramu was on a single-minded, purposeful, forward-looking path for the wood-based furniture industry in India



Mr. V. Ramakrishnan (fondly called "Ramu" by most of his friends in the woodworking industry in India and abroad) passed away in Bangalore on the morning of 7th February. He was 66 years old. The "father of modern woodworking in India", was the Executive Director of Leitz Tooling Systems (India) Pvt. Ltd. at the time of his demise.

He was also the founder of *WoodNews* magazine, a project far ahead of its time, and an apt instrument in his aim of helping India attain mechanisation, industrial scales and global competitiveness of wood-based furniture manufacturing.

A look at Ramu-Sir's life reveals not only his advanced vision of the industry in the country, or his stellar contributions to its development, but also his dedication, perseverance and, above all, his versatility with materials and machinery alike.

He was born on 20 October, 1949. He chose Aeronautical Engineering for his graduation (B.Tech.) from the Indian Institute of Technology (IIT) Madras in 1971, and followed it up with an M.Tech. in Industrial Management from the same institute in 1975.

He was awarded a research fellowship in 1977 by the Society for the Advancement of Electrochemical Science and Technology for research into electro-chemistry.

The beginnings

As Chief Engineer of Mysore Plywood Ltd. (Mafatlal Plywood Ltd.) between 1979-1981, Ramu brought into practice many process changes, chief among them the use of alternative species of wood material.

As General Manager of Arunachal Plywood Industries Ltd. (1981-83), he not only revived the sick plywood mill, but also introduced pre-pressing technology and special thicknesses for veneer packs.

He worked with Hansbrasboden and Osbahr KG, in Hamburg, Germany, from 1983 to 1988, where he was responsible for planning and execution of projects in Myanmar, Libya, Brazil, Iraq, Iran and other countries. He also established Hansabrasboden+ Ramu in 1983, to sell and service German machines and spares in India.

In 1989, he renamed Hansabrasboden+ Ramu as HBR Consultants to distinguish it from the German company.

The same year India's first rubber wood processing facility was delivered on a turnkey basis to Veera Treatwood Ltd. in the Cochin export processing zone in Kerala. He also established a complete plant with oscillating pressure cycle sequence, chemical treatment, vacuum drying and manufacturing of edge-glued boards.

One of the first rubber wood processing units outside an export zone, Anugraha Wood Products Pvt. Ltd., was also set up in 1990 in Coimbatore, for treatment and seasoning of rubber wood for manufacturing doors, windows and frames.

In the next 5 years, he established many more rubber wood processing units, among them Growell India Pvt. Ltd. in Bangalore, GommaWood Industries and Pactrubberwood Industries in Kottayam, Nilambur Wood Industries, and Feroke Boards in Calicut.

Not content with having earned his laurels, 'Ramu' started IJ Machines Pvt. Ltd. ►

Fevicol Adhesive Solutions for Woodworking Applications



Fevicol Hotmelt Products

Fevicol's range of edge banding adhesives has several options for manual as well as automatic machine applications. All the products provide good adhesion properties with excellent resistance against heat, cold, moisture and oxidation.

Fevicol Hotmelt AMT Transparent (unfilled) & Fevicol Hotmelt AMT Clear (filled) are ethylene vinyl acetate (EVA) based thermoplastic adhesives recommended for throughfeed edge banders. They can be used with PVC, PP, ABS, veneer, polyester or melamine resin edge bands. Fevicol Hotmelt 382 (filled) Fevicol Hotmelt MNL Clear (filled) & Fevicol Hotmelt MNL Transparent (unfilled) are specially designed for manual edge banding machines. It can be used to apply PVC, HPL, ABS or solid wood onto MDF or particle board.



Fevicol SWR Range

Specially designed for the handicraft industry, this Polyvinyl Acetate based white adhesive meets the DIN EN 204 Stress Group D3 Standard. It is suitable for all types of wood working applications and provides very high water resistance and excellent bonding in lamination with all grades of wood, even in high humidity areas. Fevicol SWR Plus is specially designed for application in cold weather conditions. SWR EQ has even better cold weather performance and can achieve D4 standard by adding 5% isocyanate. SWR LV has very low viscosity. All are non-flammable and non-toxic with REACH Compliance, Low VOC (Volatile Organic Compound) Certification and Free Formaldehyde Certification.

Fevicol Probond

This water/synthetic resin based emulsion adhesive is suitable for lamination of primer coated PVC sheet to MDF. It is also used for manual edge banding of primer coated PVC Strip to MDF, particleboard, ply etc without using any edgbanding machine, making it highly economical. It has excellent bonding compared to solvent based adhesives, as well as high heat resistance, easy applicability and low VOC



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The classic PVC white glue for wood to wood bonding features unsurpassed bonding strength, good resistance to water and heat, higher coverage and good value for money. It is not only a leading brand in India, but also the most successful brand in the world in this segment, being exported to over 50 countries.



Fevicol SP Range

This range of sprayable, synthetic rubber based solvent borne contact adhesives can permanently bond painted steel, plywood, chipboard, PU foam, muslin, foam rubber, felt, fabric, leather or many other materials. SP-4 is the basic version. SP-5 is specially designed for the automotive industry and is also used to make writing boards using honeycomb cardboard and white laminates. SP-6 also has high heat resistance.

Membrane Press Range

Fevicol Membrane PU is a solvent based polyurethane contact adhesive used to bond PVC foil to MDF, plywood or other materials. It is ideal for door manufacturing, with low activation temperature, fast drying time and good bond strength.



Fevicol Membrane Press Star 2K is a two-component water based synthetic adhesive used to bond PVC film laminate to wood based panels in the modular furniture, modular kitchen and doors industries. It has excellent heat resistance, low activation temperature and high green tack. It is non toxic and non flammable.

Fevicol Membrane Press Adhesive LC.

Fevicol Membrane Press Adhesive LC is a water based adhesive, specially designed for applications in PVC moulded doors. The unique formulation ensures high green tack resulting in strong bonds on difficult substrates. The product does not release any harmful emission and is safe for users with no adverse effect on the environment.



The product can be easily applied using an air compressed spray gun. Its distinctive features ensure effective deposition on the substrate resulting in higher coverage. Since the adhesive is water based the spray gun can be cleaned with tap water. When used with 5% Membrane Press Hardener the heat & water resistance properties improve vastly. This product bonds PVC to most of the wood substrates like MDF, particle board etc. The mixture with hardener has a pot life of 3 to 4 hours. Higher coverage of 6 to 7 doors compared to 4 or 5 doors in solvent based systems. No volatile losses in this water based system.



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Exporting back

In 1991, he pooled the energies of like-minded friends to launch WoodNews magazine, the first of its kind in India, and distributed it free of cost until the year 2001.

That same year, Srichakra Engineering was established for manufacturing machinery for the wood industry. He built semi-automatic brush making machines for Anton Zahoransky GmbH of Germany.

So successful was this venture that 'Ramu' was able to export several machines back to Germany! It also produced automatic under-the-table cut-off saws and such similar machines.

The year 1996 saw him venture into the manufacture of particle boards from jute stalk and fibre with the establishment of Aurobindo Laminations Pvt. Ltd. in Nagpur. That same year saw India's first exhibition of woodworking machinery, organised by HBR Consultants, on the premises of St. Patrick's Church complex in Bangalore.

Between 1997-1999 'Ramu' designed and supplied machines to the Philippines for establishing a rice husk-based particle board plant; helped set up Warna Exporters in Sri Lanka for manufacturing brush handles; and established Classic Furniture in New Delhi.

He completed a Rs. 10-crore project for furniture manufacturing in Ramgarh (in the Shekhawati region of Rajasthan) on a turnkey basis. He also introduced Mango as an alternative wood to Shisham and

successfully promoted it among the handicraft furniture manufacturers in Rajasthan and Delhi.

In 1999 'Ramu' brought Leitz GmbH & Co KG, Germany, to India in the form of Leitz Tooling Systems (India) Pvt. Ltd.

Enter IndiaWood

The first IndiaWood exhibition was organised at Kanteerva Stadium, Bangalore, in 1999, in collaboration with EUMABOIS (the association of European woodworking machinery manufacturers). This was the first-ever woodworking exhibition in India, which 'Ramu' supported without reservation.

IndiaWood was organised again in 2001, and continues to be held every two years since then.

At the turn of the century, 'Ramu' sold HBR Consultants to a group of real estate companies in Bangalore; but he went on to establish Homag India Pvt. Ltd., a subsidiary of the Homag Group of Germany.

Three years later, 'Ramu' set up the first working showroom of CNC machines and started a training programme for their operation and maintenance. He established AG Sons Panel Processors, for job working of panels to promote Homag machinery.

Also in 2003, he was instrumental in setting up the Advanced Woodworking Training Centre, in collaboration with ACIMALL (the Italian woodworking machinery manufacturer's association) and the Italian Trade Commission. The entire curriculum, syllabus, lesson plans and training of trainers was carried out here to make it a success.

From then until 2011, in his capacity as first the Managing Director and later

Chairman of Homag India Pvt. Ltd. 'Ramu' was involved in planning and execution of several furniture manufacturing projects and processing plants.

Among them were the expansion of Godrej processing facility; setting up Quetzel India Pvt. Ltd., Ergo Spaces Pvt. Ltd., Pentavision; Jayabharatham Furniture and Appliances; and Woodstar in Ahmedabad.

In 2005, Ramu Machinery Pvt. Ltd. was set up as a subsidiary of Homag India for selling and servicing solid wood machines and entry level machines. RMPL was instrumental in the project execution of a 7-million-Euro international furniture factory in Oman.

The assignment included conceptualization, assistance in building and electrification, complete supply of equipment, erection, installation and commissioning. The selection and training of personnel, assistance in marketing and strategy, establishment of production systems was also carried out under his leadership.

Together with (the late) Dr. Joseph George, 'Ramu' established and patented a new process in 2012 for making boards from bamboo, known as "crushed bamboo boards".

To him goes the credit for converting an existing plywood mill to produce these bamboo boards. Along with Dr. George he also patented four different resin formulations for formaldehyde-free, eco-friendly adhesives for wood. ■



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 **BIESSE**

“ Almost two decades ago, while struggling to find solutions, I ventured into an exhibition, where I met Ramu. And we never looked back. Every problem we encountered thereafter became a huge opportunity. When Ramu walked in, there was relief and joy. His embrace, his passion to evolve and master, his integrity and commitment was rare and treasured. Every milestone we crossed, Ramu was there to greet us.

Our world was complicated: we were trying to marry the skilled man with the machine. And simultaneously keep Function and Form in harmony, while

‘No problem is born without a solution’

trying to find mechanical solutions to assist craftsmen. The machine needed to befriend the age-old craftsman. And that excited Ramu!

Confusion was given clarity by him, sometimes by simply making me sit and do a SWOT analysis, or sometimes rationally explaining to me why I needed to do as he suggested. He told me something I never forgot: no problem is born without a solution attached to it – all it needs is focus and clarity of thinking and it will resolve itself.

Filo is now an adult. While parenting the company, Ramu never lost sight of the fact that the individuals within were the fibre of the organisation. He tried to harmonize all the skills with the machines and create a functional environment. And he did it with zest and panache. His life is perennial, wholesome and he lives in our hearts and minds. Ramu brought us much joy and hope. He will be so missed.

– Natasha Kohli (Filo Design Studio)

“ **Govind Assudani**
(Homag India)

Ramu Sir was a great person, teacher, guide, mentor and father at work. He helped me understand how to stay focused on development while navigating the challenges of the woodworking industry. He loved the industry, he gave his life sowing that love into people. What I owe him is beyond valuation and can never be repaid.

“ Ramu Ramakrishnan leaves behind a gap in the wood industry that will be hard to fill. He was a pioneer and a great source of inspiration. Our thoughts and prayers are with his family, relatives and friends. Egger Group will honour his memory.

Georg Prager
Sebastian Finger & Arvind Katyal
(Egger Group)

“ **S. P. Bhasin**
(Associate Decor Ltd.)

I am personally privileged to be associated with ‘Ramu’ Ramakrishnan for more than two decades and had the opportunity to work closely with him on a couple of projects. Ramu Sir was a legend in his field for more than three decades. He helped many wood-based panel factories to set up and upgrade their facilities in the most efficient way.

He was keenly involved in bringing up standards and speed in making engineered panels by introducing various types of machines and tools. Thousands of edge banding, drilling and panel processing units have come up in India in last 20 years’ time: people like ‘Ramu’ had a huge role in that. True homage to Ramu Sir will be to carry forward his mission and vision.

Father of ‘Make in India’

“ The only factors that drive great people are passion, love for humanity and a strong desire to help people in need. Selflessly helping others, even when you are drowning with little hope. Keeping a level of positivity that is impossible in the face of all odds. I had the good fortune of meeting Ramu Sir, who walked the sacred space of woodworking in our country, an angel in the mortal disguise of a human.

The country in general and woodworking specifically had him as a guardian angel, a crusader who relentlessly pushed the cause of ‘Make in India’ long before it became the mantra of the movers and shakers. People who interacted with him flowered and grew. His uncanny ability to touch that vital nerve of what ailed the Indian woodworking industry, and work to protect that failing, made him an angel.

He suffered in silence, faced many indignities, losses and life threats, falling down many times. But each time he fell, he got up, dusted himself and set out again to follow his dream: to put Indian woodworking on the global map! Stepping into his shoes will require many people at one time as those are big shoes, but we will all try. Thank you for walking with us and showing us the long road that we need to tread.

– Sandeep Mukherjee
(Quetzel Designs India)

“ **Shantikumar Mansabdar**
(Woodcon Consultants)

I knew Mr Ramakrishnan since 1985, when I entered the consultancy business on his advice. I always regarded him as my mentor and followed his footsteps.

An iconoclast in jeans & beard

“ Ramakrishnan was “Ramu” to me since 1969, when I had not yet exited my teenage days. I shared the hostel life with him and always knew him as a good man, a great friend, a man chasing his dreams but always carrying people with him. His ability to connect with people was phenomenal! All of us from those days (IIT-Chennai) knew Ramu was destined to leave a big impact in life.

He was always an iconoclast, going about in his blue jeans, T-shirt and Hawaii slippers and a trademark beard to the most formal events! He revelled in breaking traditions and setting patterns of behaviour. He was sure that one cannot be a commoner if one wants to achieve something different from what is normal and acceptable. But you wouldn't ever have seen his beard dishevelled or unkempt. Black or silver, every strand was tended to and perfectly shaped and styled tastefully.

He truly believed that steps to success are paved with accidents and losses and he was willing to bear the associated costs. I personally know many people who have been devastated by his demise, but who are determined to take the companies he has set up to success: the best tribute anyone can give Ramu and his indomitable spirit!

– Ravichandra Tawag (Dieffenbacher India)

“ My association with Ramu Sir goes back to my school days when he was studying at IIT-Chennai. His parents and I were neighbours then. He is my Guru and has mentored and guided me to what I am today. I am so very indebted to him for everything he has done to me.

R. Ravindranath
(Levigo Engineering India)

“ In Ramu Sir, we have lost the godfather of Indian woodworking industry. Apart from being an industrialist was also a great philanthropist and has supported many people and foundations. I am really proud that I had the opportunity to work with such a great man, and the expertise and experience he shared with me.

T. Gopi
(Woodtech Consultants)



Ramu and Ravindranath during a trade exhibition in Germany in December 1990.

“ **Pragat Divvedi**
(Founder Editor of 'Ply Reporter', 'Surfaces' & 'Furniture Design & Technology')

Ramu's contribution and his magnetic thought clarity for thousands of furniture, joinery and woodworking industries has led the country to huge growth in business, employment and new opportunities. His smiling witty presence, ease of creating new ventures and his "art of giving" ... So selfless and so bound to his mission!

Ramu has planted seeds through lakhs of people by mentoring and training them, creating platforms for technical advancement, spread of knowledge and vision. He will be there forever as long we are there.

Ramu (in trademark T-shirt, jeans and beard) ushers guests to the inauguration of Leitz India office in Bangalore on 15 February, 2006.



Market demand not enough, we need to 'push'

'Ramu' was a man of as many words as action, and his life story and friendships stand testimony to it. On a June afternoon in 2015, he spared time – as was his wont for all those in need of help – to speak with *Dhananjay Sardeshpande* about the furniture manufacturing industry in India, what ails it, and how change for the better can come only from within. Excerpts:

India has been an independent country for more than 60 years. Yet the woodworking industry here continues to crawl, where it should have been running to tap the vast Indian and global potential for business. Why?

Furniture manufacturing was, till recently, reserved for and tagged as a small-scale sector undertaking. Built into that nomenclature were several factors that prevented expansion to a larger scale, and to this day most manufacturers churn out products from traditional 'workshops' rather than modern-day factories.

In fact, Indian entrepreneurs who wanted to set up particle board plants had to coin the word "panel processing" to circumvent the restrictions placed on wood-based furniture manufacturing!

Because of the reservation for the small-scale industries sector, fresh funding for expansion and mechanisation of

production, or induction of fresh craftsmanship and business talent was not possible. Then there was this propaganda about over-exploitation of the nation's tree cover. Why would any businessman want to invest in an industry where the supply of its basic raw material is suspect?

There is this dilemma over manpower, which works both ways. To this day our abundant and cheap labour is preferred by manufacturers over better technology and mechanisation. However, buyers now demand better quality and consistency in the products, which is not possible to make unless that workforce is well trained.

In India, we learn like the ubiquitous "cleaner" of a bus or truck: over a period of time he becomes a driver, without adequate knowledge, training or certification. It is a *jugaad* we have come to terms with and live with, now for generations.



'Ramu' Ramakrishnan at ACO Tech, in Bangalore.

That was the legacy we lived with, until the sector was freed from the small-scale industries tag. What now?

Our attitude to furniture manufacturing has not changed. We believe in expanding our network of taxi-cabs for the masses, but we won't dream and plan to start manufacturing luxury limousines! We are still used to small-scale manufacturing, enjoying tax exemptions and transacting in cash.

If you think of scaling up business, how is it possible to think small? That is why I say we need fresh ideas from "outsiders" – from technocrats and managers to government, from businessmen and investors.

The industry is also not organised...

That has been our biggest hurdle. We are not scientific in dealing with the front-end, middle or back-end of industry operations, nor are we aware of our shortcomings. There are more than a dozen industry consultants floating around the country – hugely inadequate to meet the requirements, I must admit! – but they have not been able to influence investors and manufacturers, businessmen and traders for the need to have an organised industry.

What really ails woodworking in India?

What the industry sorely misses is an organised pipeline to the markets. In its absence the manufacturing community has also not done its job: we need to create awareness and demand for our products. As businessmen, manufacturers cannot rest with merely catering to the pull (market demand); they need to also create a "push" into the market – not just retail buyers and real estate developers, but also influencers such as architects and interior designers.

Why has the idea of plantations for wood not caught the nation's fancy?

That is not true: The paper and pulp industry always depended on captive plantations and expanded the scale of

these plantations to proportions not known in India at the time. Even the matchstick and pencil industries have their own plantations to meet their requirement for raw material.

The furniture industry, however, continues to remain unorganised on all fronts: vision, technology, training, manufacturing, management and marketing. If we don't come together to create a "pull" for plantations for woodworking, there is very little even the government can do about it! In the near future I can foresee that all our requirements of hard and soft woods will have to be imported.

How have many smaller countries done better than India?

Traditionally all of South Asia has been rich in wood resources and carpentry skills. But it was the lure of exports that drove mechanisation, automation, standardisation and innovation in Malaysia, Indonesia, Vietnam, Cambodia and Thailand. That is now being implemented in the Jaipur-Jodhpur woodworking hub in Rajasthan now.

We need to understand that India has huge human potential and we can compete in the international markets for finished goods. But for that to happen we need mechanisation: for scale, standardisation and consistency of our products. That is what I have been saying so frequently: train our labour force, introduce scientific management of our factories, deploy the best materials and technologies, and the world will become our captive market!

Would you agree that e-commerce companies have arrived at the right time?

In the absence of an organised supply chain and market management, yes. The market is booming like I have never seen before, and it is but natural for the e-retailers to make it big. But their vendors are restricted to bigger manufacturing hubs in Rajasthan, where scaling up of production is possible. Also, let us not forget that these vendors have under-utilised capacities on account of the economic slowdown in the



Forever smiling and game for a joke, 'Ramu' posed with a look-alike visitor at DelhiWood 2016.

West, and some of them would be only too glad to dispose of their export surplus!

That said, I see the recent developments as a turning point. While a handful of manufacturers have a network of showrooms, not everyone can afford real estate for physical showrooms. That is why you notice that bigger manufacturers are starting their own online portals. If you can reach and convince your customers to buy online, so be it!

You were saying Ligna 2015 (world's biggest woodworking machinery trade fair in Hannover, Germany) was different?

The big machinery companies in India talk about sluggish pace of change. On the other hand we know that sales of smaller, entry-level machines is gaining ground. Overall, we are beginning to see and touch better technology. There is a gradual but steady change.

I have been going to Ligna for more than three decades now. The last edition (2015) was an eye-opener for me. More than 70 Indian companies (represented by more than 400 visitors) turned up in various halls, and many of them placed big orders for various woodworking lines – from furniture and shutters to flooring. That was a delight!

How to choose a finger jointer

Weinig Group and Grecon offer various machining options for start-ups and specialised operations



Finger jointing results in higher quality material and stronger connections between pieces and components, while also dramatically reducing waste.

The economic utilisation of timber is top priority when it comes to finger jointing. Basic economics in a market, where the cost of raw materials was rapidly rising, has led to an increased demand for finger jointing. Over the past decade this has forced many companies to consider finger jointing as an option.

Wood, which was previously just good enough to heat the boiler, has now been turned into a usable component for many kinds of products such as furniture and flooring. In fact, finger jointing results in higher quality material (knot-less) and stronger connections between pieces and components, while dramatically reducing waste. Any kind of wood is suitable for finger jointing, thus increasing its value and quality.

There are various products where finger jointed material is superior to single-piece construction as it is less prone to warping and cracking. According to the

demand and type of finished product, different types of joints are available for the specific applications.

Basics first

A first and basic differentiation would be between the nature of the joint, which would be either vertical or horizontal. While vertical joints are often applied to non-visible parts of a finished product, horizontal jointing or butt jointing is preferred in visible areas, such as table tops and front part of cabinets.

Finger jointers that are able to perform this task are available in the form of a simple one shaper, accompanied by a press standalone version, capable of doing only a basic vertical joint. There are also technologically highly advanced finger jointers that are capable of both vertical and horizontal jointing with minimal offset. These ensure perfect alignment to reduce the amount of timber that has to be taken away by

four-sided planing (S4S) after jointing.

The finger joint profiles can be further adjusted to market requirements of various industries such as furniture, picture frame, or where structural components of different finger joint lengths are needed. The industry benchmark for several years has been finger joints where the finger length is as short as 4mm, such as those used for picture frames.

The extremely short finger length of 4 mm offers a distinctive advantage that is greatly appreciated by many companies around the world because of its enormous timber saving potential that results in higher profit margins.

There are certain factors to look for when choosing your source for any type of finger jointer: In general, the final product quality (low or high end), the market (USA or Europe) and pricing strategy will significantly influence the



Motors directly driving the spindles transmit their vibrations to the cutters, resulting in inaccurate finger shapes and low quality products.

decision making. Markets that require a certain quality standard in a final product can hardly be produced with mediocre equipment.

Key factors

A key factor is the spindles and drive unit of any finger jointer. High precision and maintenance-free spindles types set the benchmark in the industry and offer outstanding long-term performance. To achieve highest finger quality, cutters spindles should never be powered by direct-driven motors. While this is cheaper to manufacture, special motors must be used that are much more expensive to maintain.

Motors directly driving the spindles transmit their vibrations to the cutters, resulting in inaccurate finger shapes and finally lower quality products. Driving the spindles indirectly to achieve the required cutter speed (RPM) prevents the vibrations from the motor to be passed on to the cutters. Belts that take up the undesired vibrations from the motor results in a superior cut of the finger profile and also enhance the product quality.

Besides the shaper unit with its spindle, a proper pre-press in-feed is critical for exact alignment and good, tight joints. Large offset between the individual pieces produce unnecessary waste. A general rule for achieving good quality fingerjointed material would be to rely

on heavy alignment units combined with vacuum belts.

This is a must if it comes to higher capacity finger joint models having vibrating upper press elements, to ensure proper nesting of pieces. Modern, state-of-the-art finger jointers go even beyond these features. An outstanding example of the latest technology is laser checking for proper alignment, or for checking over thickness of ingoing material.

Examples of this are the Grecon HS models that offer an automatic ejector for pieces that are out of square before they enter the pressing station. The range of finger jointers starts with assembled, basic single shaper machines, commonly seen in newer woodworking markets like India. On the other end of the spectrum are heavy-duty, high-capacity machines where the profiling units are solid, one-piece aggregates, engineered to work perfectly with the model they were designed to complement.

Modular concept

Finger jointers with a modular concept – where the shaper, transfer station and press are designed as interchangeable modules – have the advantage of adding and exchanging elements to the machine in the future.

The volume of finger jointed material required, the floor space and personnel a company wants to dedicate to the finger joint department could vary in due course. A modular range of machines lets you upgrade certain modules such as the press, shapers or transfer stations. Therefore, a modern finger jointer with exchangeable modules would be a perfect choice, considering the different needs that might arise in the future.

The Grecon Ultra TT is such a single shaper model that offers extreme flexibility. The minimum timber in-feed length is 150 mm and can range up to 4 metres. Cutting height standard is 205mm and, in the case of structural

timber production, such as laminated beam, could be as high as 300mm.

As in all Grecon machines, the Ultra TT models could be semi-automatic or fully automated, even to a degree where in-feed and out-feed (including stacking, trimming and packaging) are done as per customer requirements.

Another unique feature is 'Flankenjet', the glue application system that ensures economical and even glue application with a saving of up to 30%, compared to a conventional roller system.

Once the glue has been applied, the finger jointed timber pieces are transported to the press, where pressure is applied at the front. The thrust force depends on the timber cross section and ranges from 12 tonnes to 30 tonnes for structural timber.



Extremely short finger length results in enormous timber saving and higher profit margins.

The press time can be chosen and changed as required. After completion of the press process, the upper pressure bar is lifted and the assembled timber strip is pushed aside.

All Grecon machines are manufactured to a very high degree of precision, not only in Germany, where all models are manufactured, but in any facility of the Weinig Group, which offers the solid wood industry several products that include the moulder, optimizing cross-cut saw, rip saw and many more advanced machinery options.

Expansion in 3-D: space, exhibitors and a record 50,800 visitors



The 9th edition of the biennial IndiaWood – Asia's largest trade fair for the woodworking and furniture manufacturing sector – set some more records: more visitors, more exhibitors, larger display space, more trust in its ability to deliver results. That it is among the top shows globally is now beyond doubt

As the leading platform for the woodworking and furniture manufacturing sector, IndiaWood 2016 delivered more than 50,800 trade visitors, a whopping 55% increase over its previous edition in 2014. It was held at the Bangalore International Exhibition Centre from 25 to 29 February.

What is more, it generated vastly greater interest among potential customers from West Asia, Europe and even Africa. Visitors from the United Arab Emirates, China, Nepal, Sri Lanka, Malaysia, Thailand, Indonesia, Hong Kong, Singapore, Bangladesh – even Italy, Germany, Spain and Turkey – topped the count this year.

In all there were more than 600 visitors from as many as 53 countries who checked in at IndiaWood 2016, for a complete overview of the market and technology in all its dimensions. IndiaWood is seen as a driving force behind innovation and success in the global scenario for furniture production technologies.

There were sizeable sections of visitors from as far apart as Canada and Taiwan, Poland and Pakistan, Switzerland and Sudan, Qatar and Kenya, Malaysia, the Maldives and Tanzania.



Mr. S. J. Anthony

Architect & Vice-Chairman, Indian Institute of Architects

IndiaWood was very good and extremely well organised. It was informative for architects like us to understand industry trends. In fact, we have already given orders to three companies for products ranging from laminates to grills.

The seminar was also very well organised: for us it was a re-learning of subjects we had learnt in architecture education. My only wish is that more architects and students visit this exhibition and seminar.



A majority of visitors came from over 830 towns and cities in 34 states and Union territories across the country. They comprised of furniture manufacturers and craftsmen; distributors, dealers and manufacturers of hardware and accessories; plywood and particle board manufacturers and traders; manufacturers of wood-based products; architects, interior designers and builders.

Most of them came from Karnataka, Tamil Nadu, Kerala, Maharashtra, Telangana, Andhra Pradesh, Gujarat, the National Capital Region of Delhi, Rajasthan, Haryana, West Bengal and Uttar Pradesh.

There were hundreds more from Madhya Pradesh, Chhattisgarh, Punjab, Odisha, Goa, Jharkhand, Bihar, Pondicherry, Assam, Uttarakhand, Himachal Pradesh, Chandigarh, and the north-eastern states of Nagaland, Manipur, Tripura, Meghalaya, Arunachal Pradesh, Mizoram and Sikkim.



“Our decision to participate was at the last minute, but we were overwhelmed by the response. I can say it was on par with international exhibitions. We have several enquiries to follow up on. And no, we did not come across any casual visitors.

Mr. Masud Shaik

Sales Director, Regal Castors

This year, more than 700 companies from 20 countries took part in the 5-day exposition of furniture production technologies, woodworking machinery, tools and fittings, accessories, raw materials and products. They were spread across 40,000 square metres of exhibition space.

Clearly, exhibitors continue to value the strength of IndiaWood as a strategic platform, showcasing the very latest

technology and innovations that are currently shaping modern woodworking and the furniture production industry.

Through proactive engagement with stakeholders and a genuine commitment to excellence, IndiaWood has evolved in line with industry demand, and is globally recognised for doing so.

As usual, IndiaWood attracted trust and support of industry stakeholders and associations, among them Eumabois (the federation of 14 national associations of woodworking technology and accessory manufacturers in Europe), the Export Promotion Council for Handicrafts, the Indian Laminate Manufacturers' Association, the Indian Plywood Industries Research and Training Institute, the Association of Furniture Manufacturers and Traders, and the American Hardwood Export Council.

“

Ms. Manju

*Associate Director,
Klaaseina Interior Solutions*

This was my first visit to IndiaWood; I am very impressed; and I am glad we participated. The visitors to our stall were all serious visitors: manufacturers, sales people, architects and contractors... Some of our competitors also came to our stall. We had a lot of enquiries and orders: 10 times more than we anticipated!

“

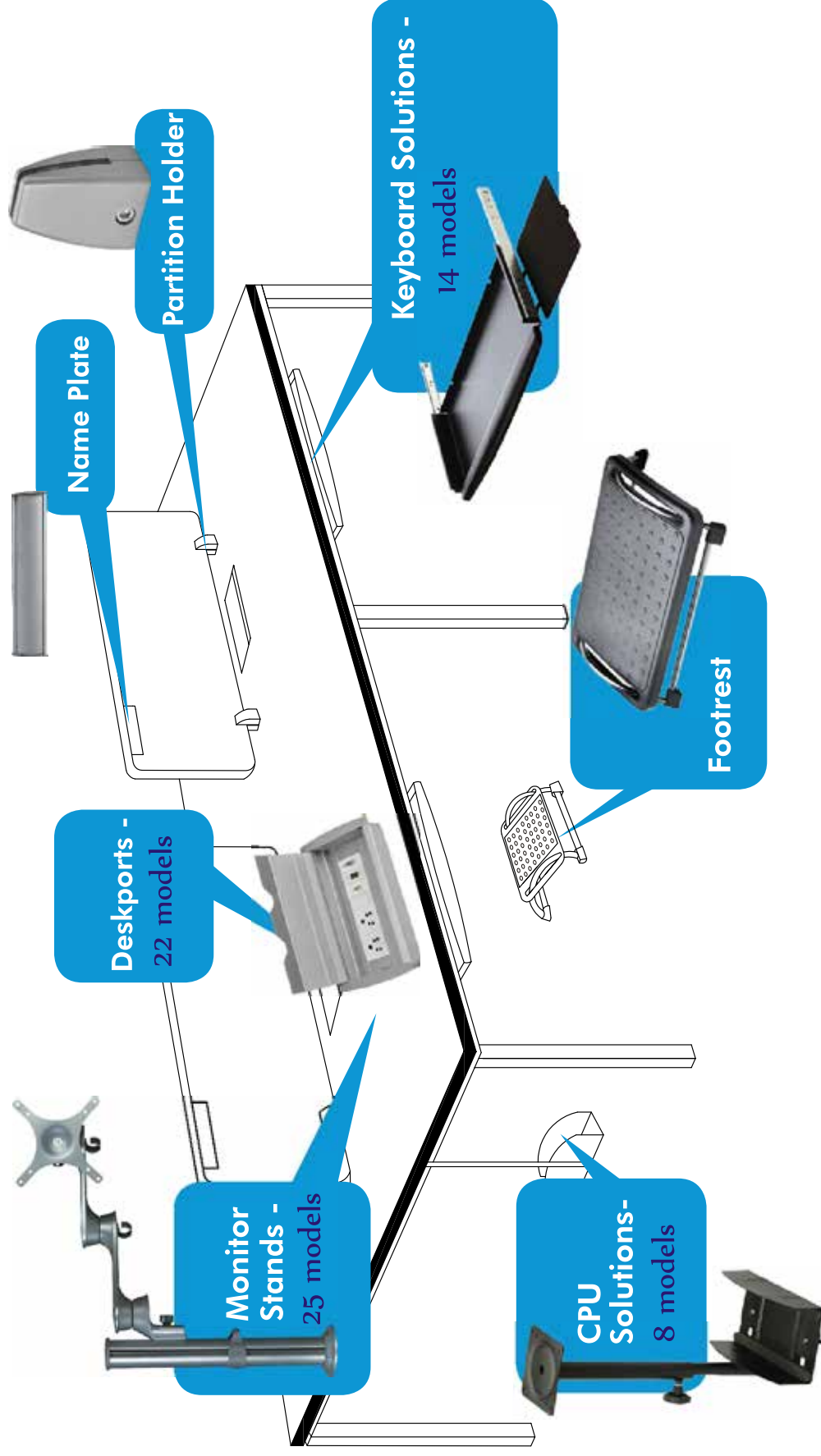
I have participated in several IndiaWood exhibitions. I felt that in 2016 most of the visitors were professionals and well-informed: there were hardly any casual visitors. IndiaWood was good for me as it helps to create awareness of my product.

The furniture industry has moved out to Pune, Ahmedabad and Nasik: so your next show should be in Pune instead of Mumbai. Also, you should look at holding one in Kolkata, as the eastern Indian market is also growing fast.

Mr. Hemant Puri

Saffaire Industrial Saws





India can make world-class furniture



Mr. George Ko, Managing Director of Taiwan's Holytek Industrial Corporation, was at IndiaWood 2016 in Bangalore, where *WoodNews* met him to gauge his perceptions about the furniture manufacturing scenario in the country. Excerpts:

How did Holytek venture into India?

More than 14 years ago, we entered into an arrangement with Woodtech Consultants in Bangalore to introduce Holytek machines to the woodworking industry in India. Our machines were factory-tested from many customers abroad. Although our machines were for professional manufacturers, it took time to educate Indian entrepreneurs and businessmen about them.

Increasingly Indians are turning to woodworking as a serious business model and approach it with professional interest...

Yes, the end users of furniture are demanding variety and good quality. That is why there is increasing

professionalism among manufacturers here. We made initial inroads into India when plywood and panel processing gained momentum here.

Holytek's Green Series of panel line machines are already well-known in India. These can match, feature for feature, any similar machines from European machinery makers, and that is something the Indians have understood.

There is always debate on whether European technology is better or Asian...

In the initial years (especially) German machinery was faster, heavy-duty, and had many more features. That is no more the case. In fact, because of the demands of industry year-on-year, Holytek now makes machines that are faster, and with specifications that match the needs of Indian manufacturers.

You have personally participated in IndiaWood shows before. Do you see any change in the visitor profile this time?

Definitely! The people we have interacted with till now are much more informed. They know what they need and do not hesitate to initiate a serious dialogue with us. I would say that since IndiaWood 2014, I have seen better educated manufacturers: not only the business owners, but also their work force.

How would you rate Indian woodworking industry?

I must say India is going through very a exciting time: you have a more stable government in place, and it has shown great interest in reviving a flagging economy. There are also so many futuristic schemes on the anvil, such as the concept of "smart cities", steps being taken for skill development and self-employment.

You also have cheap labour in far greater abundance than in China. With proper education and training of this vast resource, I predict that one day soon India will stand up to international quality standards and compete with the best-of-the-best in the world furniture industry.

Holytek and Woodtech have completed 15 years as partners in India. What next?

Holytek will continue to focus on growing markets and their needs; such has been our approach towards India also. We have been training Woodtech technicians and managers whenever the need arises, especially when we plan to launch a new technology. That will continue in the future too.

But as both the companies grow in terms of volumes and sales, both of us are looking forward to upgrading our systems, processes and management of business together. We are working on special schemes to take our business partnership to greater heights.



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India on road to water-based coatings

Germany based Venjakob group of companies plan, produce and install complete system solutions for the woodworking and wood processing industry – from pre-treatment, conveyor and handling equipment, right through to the drying, air filtering and coating process. Roy Thomas caught up with **Mr. Dieter Feldmann**, Venjakob's Sales Director, at IndiaWood 2016 in Bangalore. Excerpts from his conversation:



You mentioned you first came to India 15 years ago. What differences do you see?

Today is my first day in India after a long gap. What hit me initially was the way marketing is being done: the appearance and approach is very different and professional. The second observation is that the idea of wood finishing is now an important requirement and more companies are coming in and selling spraying machines to meet this demand.

Also, people have understood the industry and come up with more precise queries. They also have some interesting suggestions and ideas, and want to know how they could incorporate these innovations in their production lines. So, Indian customers are much more clued in than before.

What feedback have you got

about the change in the market in India?

What I can see is that there are companies that are very well organised – some of them are even better than German companies! I had visited a customer in Nagpur earlier, when it was really very unorganised. During a more recent visit the change of structure was noticeable. Of course some German consultants helped them in things like material and process flow, but today they are very streamlined in the way they are being run.

When you see there are so many positive changes, what do look forward to?

I must mention that I was surprised that many customers in India were talking about water-based materials. That is something I did not expect. For instance,

I thought everyone was still using solvent-based coatings.

To my amazement these customers were insisting on using water-based UV coatings for their finishing lines, which is fantastic! Compare this to other countries that are still talking about polyurethane coatings. India, I think, is already on the water-based road.

And Venjakob is ready for this change in India?

Yes, definitely. There is a technology with UV, water-based finishing lines that we developed, first for the German market, and then for other markets. This environment-friendly product is very important for the future. That will be the difference 15 years from now – there will be almost no solvents used for finishing, and this is very important for the environment.



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14 ways, and more, in which wood is good

Award-winning Malaysian architect enthralled his audience with real-life experiences

A workshop-cum-presentation by noted Malaysian architect and Aga Khan Award winner, Dr. C.S. Lim, was among the highlights of the Architects' Seminar at IndiaWood-2016, which was organised by the Karnataka chapter of the Indian Institute of Architects, in conjunction with WoodNews magazine.

A strong votary of the use of wood in construction, Lim was critical of the

increased reliability of the construction industry on reinforced concrete. In India, he said, although architects like Le Corbusier had done wonderful and revolutionary work, they were guilty of changing the focus of construction from traditional wood to concrete.

This has resulted in type casting what Indian architecture should be and made it a stereotype. "Today, wood and



construction with wood are given superficial treatment in our architectural schools," he observed, adding: "But timber is a complex and an amazing material that is any day superior to reinforced concrete."

He asserted that while concrete was fine in countries in Europe, South Asian countries need to think within their own context and use materials that are locally available and have been tested over thousands of years. "Timber is god's gift to man," Lim said, "and today man is rejecting that gift."

Sustainable resource

Timber is sustainable and renewable and is capable of regenerating itself. He cited 14 reasons on why timber is superior to any other construction material: workability, beauty, availability, ease and speedy conversion to building material, economical, single-trade (only a carpenter is required), easy maintenance, durability and strength, inherent warmth ("symbiotic, as man and wood are both organic"), thermal comfort, flexibility and versatility, sustainability and capable of being mass produced.

He also cited the scientifically established link between human health and wood, where there was visibly lower stress levels in humans when surrounded by wood.

"What is important," he explained, "is the need for renewable and sustainable use of our forest resources. Systematic replanting, even while logging is happening. Such replanting programmes would have to be validated by empirical data to confirm that nothing is really lost."

Hard vs Soft wood

According to Dr. Lim timber from tropics is heavy and exotic. In the tropics, there are no distinctive seasons, the development of fibre is not well defined as compared to the temperate zones. Because of this the growth of the tree differs.

"That is why, when you cut a tree from the temperate zone the rings are very distinct, and by counting the rings you can tell how old the tree is. You cannot do this with tropical trees, unless there are certain types that are related to temperate climate," he said.

In temperate zones, because of the distinctive growth, the fibres are long and continuous. In that respect pine and other soft wood species are much better as tensile material. But in compression it is not so good.

"So, depending on the use your knowledge, timber helps. If you are going to have a beam with a long span you can use soft wood; but if the loading is not good, then you will have to reinforce it," he noted.

Lim pointed out that it is a misconception that wood decayed easily and maintained that recycled timber could last a minimum of 50 years, while fresh timber easily has a life span of over 100 years.

He listed out the various aspect of construction that the architect had abdicated and instead outsourced: interior design, project management, colour coordination, landscaping, urban planning, construction, acoustics, structural, civil and mechanical engineering, and quantity surveying.

"In Asia, most of our schools of architecture have eschewed local practices that have been honed over decades. We rigidly follow Western architecture and practices. Our teaching methodology was still being patterned on the Royal Institute of British

Architects (RIBA)," he observed.

Master class

Going into specifics of constructing houses using timber, Lim gave a brilliant and detailed explanation, supported by diagrams, of the various aspects and processes involved in the making of a domestic residence with wood. Starting from wooden columns, king and queen post trusses, and joists he demonstrated the use of wood in domestic architecture.

What followed was a master class in joinery that included use of sheer rings or nails to provide more strength to a joint as opposed to the use of bolts. He then demonstrated the use of the overlapping technique to join pieces of wood and also the use of halving while overlapping.

The use of floor joist; cross-bracing to create triangulation to ensure the wall doesn't lose its plumbness; use of rafters and ceiling joists, ceiling hanger and collar ties to prevent a sagging roof was also discussed. The technique of installing a cantilever beam without use of trusses or slabs in construction was demonstrated and the importance of camber for aesthetic reasons was also highlighted.

What was notable here was that Jimmy Lim walked the talk by using his own house as a laboratory where various species of timber underwent nine stages of trials to demonstrate the qualities of timber and recycled components. He had also experimented on energy efficient architecture that respected traditional and cultural values of both the place and the environment where it was built.

The post-lunch session saw Lim using a lot of photographs of old and contemporary buildings in Europe, South and South-East Asia to demonstrate the various techniques that are used by local artisans to construct amazingly beautiful structures and buildings.

Many of these buildings have survived the vagaries of time and nature for centuries and were living testimonies of how advanced the building technology was even in ancient times.

'Wood' India return to her roots?

Eminent Indian architect makes a strong pitch for greater use of timber in construction



Padma Shri Gopal Shankar.

The second presentation at the IndiaWood-2016 Architects' Seminar, which was organised by the Karnataka chapter of the Indian Institute of Architects in conjunction with *WoodNews* magazine, was by eminent Indian architect and Padma Shri award winner, Mr. Gopal Shankar.

Before launching into the subject of 'Wood in Architecture', Shankar acknowledged the amazing legacy of the carpentry community of his native state of Kerala, who introduced him to the beauty of wood, which then eventually influenced him into a career in architecture.

He then paid tributes to the legendary Laurie Baker, well known British-born Indian architect whose birth centenary was in March this year, who revolutionised low-cost housing in the

country. Shankar spoke of Baker's amazing fenestrations and his magical use of light.

Addressing an audience consisting of architects and students who listened to him with rapt attention, Shankar introduced Organic Architecture, a philosophy that promotes harmony between human habitation and the natural world through design approaches that beautifully integrates man-made structures with its natural surroundings.

Quoting Frank Lloyd Wright, father of Organic Architecture, he stated, "Building should not be on a mountain, it should be of the mountain". Shankar lamented that Kerala, considered "god's own country", was seeing ecological degradation at its worst. "All 44 rivers that flow through it are all rivers on their

death beds," he said and put the blame squarely on insensitive architects and greedy bureaucrats who were allowing this to happen.

Going local

The speaker stressed the importance of using local material in construction, which he emphasised was available if one looked for it. Import of wood from abroad is costly and should be used only if absolutely necessary. "India has one of the highest number of tree species, and local and indigenous wood could meet any need," he felt, and cited the examples of wood from mango and rubber.

Shankar exhorted architects to internalise the beauty of timber, which meant that instead of looking at timber as just another material, they need to feel, smell and experience wood and

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make it a critical component of their architecture vocabulary.

"Wood is a natural insulator and can be used for walling and panelling and would be ideal for cities like Bangalore. It also facilitates fast, efficient and cost-effective construction, which is always a requirement in our fast-paced world," he noted.

There were also enough examples of the skill sets of local carpenters and artisans in the country, he said and exhorted architects to study and replicate some brilliant techniques, especially in rafter joinery, that were used in the past.

"A wonderful example of modern timber architecture that replicated such techniques is Tamara Resorts in Kodagu (Karnataka). This construction could easily lay claim to being probably one of the best in the world," he claimed.

Climate change

The speaker warned the audience of the dangers of climate change and exhorted them to respond with urgency to this impending threat. "Trees are nature's way of absorbing unhealthy carbon-

dioxide and converting it to oxygen. In fact, even wooden furniture continues to store carbon-dioxide till the point of its death," he said.

Recycling and re-engineering is the *mantra* to start making a change. The only building material that meets all critical requirements of sustainability is wood, and architects would have to revisit and increasingly use timber in construction.

Recycling of old building material, cosmetic surgery on buildings instead of razing them down, use of natural and locally available material, and conservation are some of the steps that architects would have to seriously consider.

He suggested that builders could be advised to use coconut fibre in foundations for buildings, especially those on marshy land. "With timber there would be no corrosion as seen in steel. It will not deteriorate when exposed to water and humidity. Using such material results in a beautiful foundation that takes the load naturally to Mother Earth," he averred.

Some properties of sustainability that wood possesses include lower expansion co-efficient, low thermal capacity and better strength. Other desirable properties were its high specific heat, sound absorbent capability, and low sound energy loss because of low friction, good electrical insulator and ability to withstand oxidation and rusting.

As for water resistance, he said any wood could be made moisture-free by proper treatment and by sucking out the water content in a vacuum container. To make it termite-free woodworkers in Kerala used waste oil from the shell of cashew nuts (called tannin). "After treating wood for over a month with this oil the wood is left with a dark colour and is totally termite-free for life," he said.

The new buzzword in construction is composites, because they meet the criteria of being lightweight and strong. The challenge now is to come up with composites that, while conforming to engineering standards, could be used not only in kitchen cabinets but also in areas like roofing, walling and even laying foundations. Another challenge is to ensure recycling in such material by using waste wood and fibre. ■

The architect points out to Tamara Resort in Kodagu (Karnataka) as being a good example of ancient timber architecture being replicated in modern techniques.



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Business heads come together again



Successful run of events continues with retail resources



The Sourcing forum and Distributors Summit, organised by *WoodNews* on 27 February at IndiaWood, saw attendance from more than 120 furniture manufacturers from across India.

They met 11 e-retailers, among them Amazon, eBay, FabFurnish, Flipkart, HomeAlive, HomeLane, Mebelkart, Pepperfry, Snapdeal, Stitchwood and UrbanLadder.

More than 1,000 business-to-business meetings took place during the day-long event. The Forum provides a platform for furniture and kitchen manufacturers to

connect with big retail businesses and e-commerce players.

Representatives of each e-commerce portal short-listed on an average 15 furniture manufacturers. They are expected to take forward the process to finalise their furniture suppliers in the near future.

For the first time, a Furniture Distributors' Summit was also organised by *WoodNews* magazine. It was well attended, with many OEMs lining up to meet and finalise arrangements with established trading houses and striking

new business relationships.

The objective of the Summit was to give an opportunity to large furniture and kitchen manufacturers – who were looking to expand their business – to identify, meet and hold discussions with those interested in setting up a dealers' or distributor network across India.

This was organised in a special area to showcase the latest, innovative ideas, as well as elegant furniture and furnishing designs, to help them expand their sales pipelines through dealers, distributors and retailers.

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DelhiWood expected to grow 20% in 2017



The 1-4 March event offers 20,000 square metres exhibition space, 450-plus exhibitors from 30 countries

The wood working industry in India is one of the fastest growing segments in the country's economy. Much of this growth is fuelled by the huge demand in the domestic market and access to modern machinery to meet this demand.

The Indian furniture industry is valued at being the 14th largest furniture market in the world, driven largely by the increasing income levels and influence of global lifestyle trends, which make the wood and furniture industry one of the most attractive investment opportunities in the now largely unorganised furniture market.

The fifth edition of DelhiWood will be held from 1-4 March next year in Greater Noida. It will bring together more than 450 exhibitors from over 30 countries under one roof to showcase their innovative and game-changing products offered to key decision-makers across Asian furniture industry.

The three-in-one knowledge and technology sharing platform, DelhiWood 2017 will have the Sourcing Forum, Furniture Distributors' Summit and Architects' Seminar as concurrent events.

Delivering results

At the fourth edition of DelhiWood last year, 393 exhibitors from 25 countries participated, of which 55% were India companies and 45% were international. The national pavilions of Canada, China and Italy also increased their participation by 20%.

There was an increase in exhibitors from the materials and supply side, with a lot of new entrants in the industry. DelhiWood 2015 welcomed 16,000 professionals during the 4-day exhibition, which broke the earlier record and represented a 40% increase over the 2013 edition.

The 'Sourcing Forum' organised by *WoodNews* was a first for the woodworking industry in India with more than 260 meetings organised between manufacturers and online retailers like eBay, FabFurnish, Flipkart, Pepperfry, SnapDeal and UrbanLadder.

"The Sourcing Forum was a huge hit and definitely increased our appeal with audiences," said Mr. SivaKumar V, General Manager, PDA Trade Fairs.

WoodNews-organised panel discussion on 'Make in India: Opportunities for furniture manufacturing', addressed the opportunities and challenges that lie in the years to come.

"The 2017 show will provide an invaluable opportunity to view the latest global technologies and best practices and create new opportunities for our industry to collaborate," SivaKumar added.

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3D printing at centre of attraction



Industry showcases the latest technologies in furniture production

The 3rd edition of furniPro Asia was successfully staged from 10 to 12 March, 2016, at the Singapore Expo Convention and Exhibition Centre. Co-hosted with the International Furniture Fair Singapore and The Décor Show for the first time, the exhibition was well received by trade visitors and exhibitors alike.

Furniture production professionals were impressed with the wide array of exhibits that spanned the entire furniture production chain. The event attracted

more than 4,500 industry professionals from over 50 countries.

The exhibition featured 142 participating brands and companies from 25 countries and included five national pavilions from China, Germany, Italy, Singapore and Taiwan, and was spread over an area of 5,000 square metres.

Leading brands included Altendorf, Berndorf Band, Biesse, Dieffenbacher, French Timber, IMA, Krono System, Lignar, Michael Weinig, Renolit, Schelling, SCM, Siempelkamp, Sterling Lam, Surteco, Taiwan Woodworking Machinery Association and several others.

"The industry needs an upstream collaboration, and Koelnmesse is the

right partner for us to have furniPro Asia co-located in Singapore during the International Furniture Fair. In the future editions of furniPro Asia, we will continue to have this co-location so as to benefit the furniture industry," remarked Mr. Ernie Koh, Chairman of IFFS Pte Ltd and President of the Singapore Furniture Industries Council.

One of the key highlights was the 'Innovation of Interior' showcase conducted right at the heart of the exhibition, which was extremely popular with the trade visitors. This special exhibition area was earmarked for architects, interior and industrial designers as well as other planners to exclusively feature future-oriented products, and to showcase innovative ideas and designs.

The display was curated by renowned materials expert from Germany Dr. Sascha Peters, founder and owner of Haute Innovation, Berlin. He also spoke on 'Additive Manufacturing and 3D Printing'.

Other programmes included a workshop on Bio-based and Sustainable Materials for the Furniture Industry, and 'Energy Harvesting and Smart Energy Materials'.

Looking forward to the next edition of furniPro Asia in 2018, Mr. Michael Dreyer of Koelnmesse remarked, "This has been an extremely exciting year for us. We received very encouraging feedback from our exhibitors and visitors. I very much look forward to a stronger partnership with IFFS in 2018!"

Exhibitors and visitors can look forward to the next exhibition in Singapore, in early March 2018.

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 **BIESSE**



Architects and furniture manufacturers inspect various Canadian wood species in Jaipur (left); Mr. Peter Bradfield of FII India (right), addresses the seminar.



The seminar by Peter showcased how wood from sustainable sources, such as Canada, helps achieve that balance and outperforms concrete and steel in terms of embodied energy, green-house gas emissions and air and water pollution.

Peter shared an engaging and detailed presentation on Canadian wood in construction and interior applications. He added: "Rajasthan is known for its rich culture in the handicrafts and furniture industry. Inspired by tradition and legacy, Jaipur has emerged as a hub for artistic wooden furniture and handicrafts. The sole intention of the seminar was to provide a sustainable, high quality alternative to traditionally used wood species."

The seminar covered timber milling practices adopted by Canada, technical information the physical and working properties of each species, leading to a high quality finished product and creating aesthetically superior products.

Canadian Wood species are quality assured, used for multipurpose applications, offer easier manufacturing ability and are durable. As a natural, renewable resource their versatility is unmatched. Being a natural insulator, it is more energy-efficient than most of the materials available.

Canada is the world leader in sustainable forest management, and its wood species are certified by either PEFC or FSC.

FII India promotes B.C. and Canadian forest products by building relationships with importers, wood manufacturers and government agencies. This is done by providing technical and product information on the wide variety of timber products available from these sources.

(www.canadianwood.in)

Canadian Wood goes to Rajasthan

Architects, manufacturers & artisans in Jodhpur, Jaipur get a feel of sustainable, certified species

Forestry Innovation Consulting India Pvt. Ltd. (FII India), the market development agency funded by the Ministry of British Columbia to promote Canadian solid wood lumber in India, hosted educational seminars in Jodhpur and Jaipur recently.

The seminars were conducted by Mr. Peter Bradfield, Technical Advisor, FII India, to promote the wood species from British Columbia, Canada, as a sustainable alternative to commonly used Indian hardwood and other species.

Rajasthan is the largest hub in the country for furniture manufacturing. The seminars were organised for FII India by PDA Trade Media, which publishes *WoodNews* magazine.

In order to bridge the demand-supply gap for certified wood, FII India took the attendees through the various physical and working properties of Canadian wood species including Western Hemlock, Yellow-Cedar, Douglas-fir, Spruce-pine-fir (SPF) and Western Red Cedar.

All the species are well suited to a large scale of interior and outdoor applications, including furniture, doors, door jams, windows, pergolas and gazebos.

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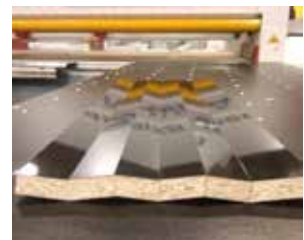
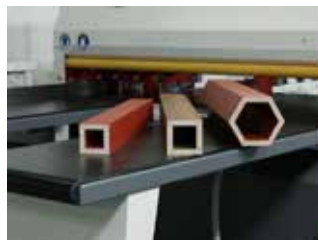
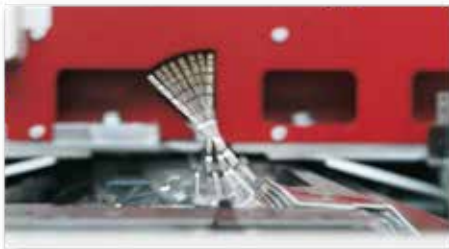
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China catching up with 'Industry 4.0'



The 16th international exhibition on Woodworking Machinery and Furniture Manufacturing Equipment and the International Exhibition on Woodworking Machinery Supplies and Accessories (WMF) will once again showcase the latest market intelligence and technological innovation from 1 to 4 June, 2016.

It will be held at the China International Exhibition Centre (CIEC) in Beijing. It is expected to cover an exhibiting area of over 60,000 square metres, featuring more than 600 leading woodworking machinery and equipment suppliers from around the globe.

While the manufacturing world is embracing "Industry 4.0", the woodworking and furniture manufacturing industry has been facing huge environmental challenges and surging labour costs. WMF 2016 is set to focus on intelligent and green manufacturing solutions and to assist woodworking and furniture enterprises in achieving energy-efficient, fully digitalized and sustainable production.

'Automation and CNC machinery zone' will be upgraded in response to the dramatic surge in demand for green and digital machinery. It is expected to meet buyers' sourcing needs for automation and CNC machinery; green production and energy saving Machinery; panel board and engraving machinery; processing, drying, coating and material making; and knives, blades, hand tools and machine accessories.

Many conferences

A macro perspective on global trends in woodworking industry, and analysis of how China cements her place among the world's leading manufacturing players will be covered. While 'Industry 4.0' has become an important trend for China's manufacturing industry in the next 30 years, China has promulgated the 'Made in China 2025' strategic plan focusing on intelligent production.

A guideline for Chinese furniture manufacturing industry to achieve long-term sustainable development will be suggested. International designers

and intelligent equipment experts will shed lights on this hot topic.

An in-depth discussion will be held on panel board regarding industry transformation in particle board production equipment and new technologies; design concepts and practices of abrasive grinding machines; and the expansion of green panel production and new sources of raw materials.

WMF is organized by China National Forestry Machinery Association (CNFMA), Adsale Exhibition Services Ltd., China Building Decoration Association, and is supported by State Forestry Administration.

It also has the support from the European federation of woodworking machinery manufacturers (EUMABOIS) and German woodworking machinery manufacturers association (VDMA).

For more information, visit www.woodworkfair.com.

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Glimpses into 'furniture of tomorrow'



IDEA is on its debut as a bi-annual exhibition of new technologies, machines, components and materials for the furniture industry, organised 12-15 April, at the Fiera di Bergamo, Rimini, Italy

The theme for IDEA in its inaugural year is "The furniture of tomorrow: Looking at technology, sustainability and new market visions". The event has been created to design and plan the future of the furniture sector through a collaborative exchange of knowledge between manufacturers of woodworking machines, component suppliers and designers.

The inspiration for the event, organised by Rimini-based Ecoarea Better Living Project, comes from the great opportunities derived from

technological innovation and the growing demand for sustainability and positive international market forecasts.

Ecoarea Better Living was conceived by Romano Ugolini, an Italian entrepreneur active in the organisation of B2B exhibitions, who combined experience in the wood sector with his interest in the green economy to set up the project. Ecoarea hosts courses and conventions for architects, designers, engineers, energy managers and professionals involved in the green economy.

Among the important topics of discussion and debate will be glue-less and zero-emission furniture; sustainability of furniture production; newly-emerging laser and robotic technologies and 3-D printing parts; and effectively aligning all processes to Industry 4.0.

Conferences

The event is expected to attract designers, architects and interior designers from all over the world to Bergamo, to get to the heart of the furniture creation processes and better target their projects and plans for the future.

Ikea is one of the big names that will offer stimulus and interesting news to the audience on 15 April in the first of two seminars organized by the Swedish company. The first will address the future of "light panels-based" furniture and furnishings, as compared to conventional materials.

In the second seminar, Ikea managers will also talk about "Customer in focus: Lower emissions in board-based furniture", which will be addressed by Mr. Lars Lindvall, Engineering and Quality Manager (Flatline category), and Mr. Paolo Romano, Global Purchasing Manager.

Another interesting conference will be held by the Milan-based Centre for Industrial Studies, which will outline the international market forecasts for the current year and for 2017. It will illustrate how the balance between China, Germany and Italy (the top three exporting countries of auxiliary furniture industry) could change and will present the ever more rapid and sophisticated demand coming from West Asia, Africa and the Asia-Pacific region.

How will the future of furniture be? How will it change depending on what is happening in the market? How can the industry manage to reconcile increasing demand with environment protection? At IDEA Fiera, there will be less "show" and more "content"!

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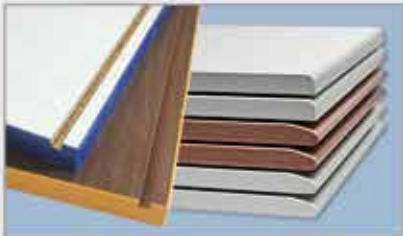
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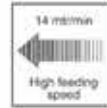
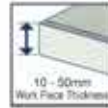
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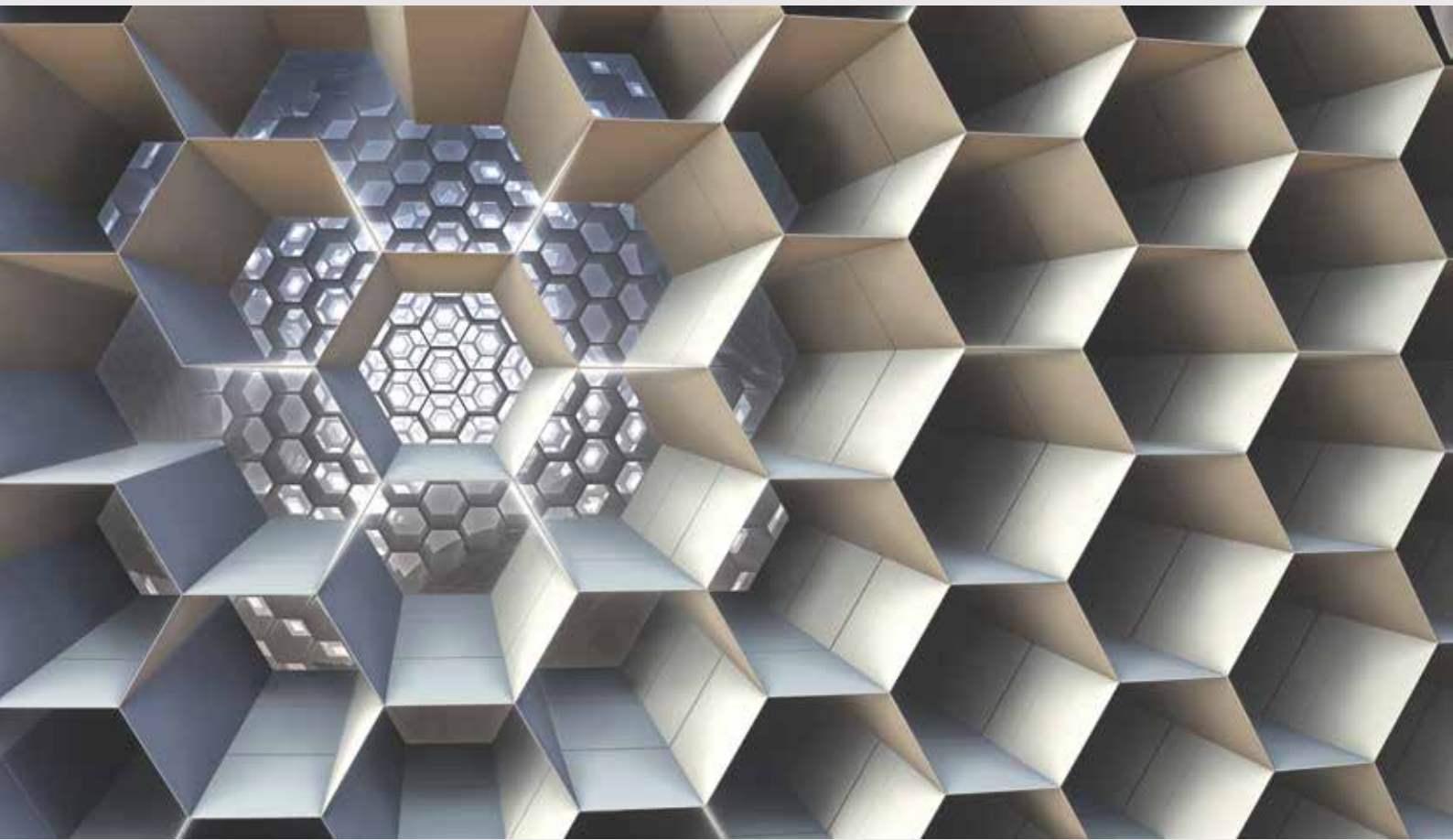
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A honeycomb is a natural or man-made structure that has a hexagonal geometry which permits minimal utilisation of material in its construction, thereby reducing its weight and cost to the consumer. A honeycomb sandwich core between wood, particle board, or even steel, is well known for its compression strength.

Mr. Henk Krabben, President and CEO of the Netherlands-based Honicel Worldwide, and **Mr. Giridhar Raj**, Director of Honicel-India, spoke with Dhananjay Sardeshpande on the concept and its global adoption, including the furniture giant Ikea. Excerpts:

Is this your first visit to India?

Henk: My first visit was 30 years ago. I tried to introduce the honeycomb concept to the Indian market; but it was too early and the market was not ready for this new technology. At that time everyone was thinking of solid material: solid wood was considered good, and only when anything was heavy was it considered as good quality. But that was basically because of a lack of experience, knowledge and exposure to new concepts.

What can you tell us about the origins of the honeycomb concept?

Henk: Honicel introduced the honeycomb concept in the Netherlands, immediately after World War II. The technology was passed on to them from the aerospace industry, which was trying to make aircraft more light so as fly more efficiently.

The Netherlands was completely destroyed during this war and everything needed to be rebuilt. The founder of the company, who was already in the construction material industry for generations, faced a shortage of building material. It was at this time that they came across the honeycomb structure and adapted the technology to make construction material. That led to the introduction of the sandwich panel. It was found to be extremely strong, lightweight, durable and, as we are Dutch, cost-effective.

Just how cost-effective is it?

Giridhar: Our philosophy is to save

nature, save raw material. Our intent is to get the maximum out of the raw material while using the minimum quantity, because that is the only way you can save. You not only save material, you also save money.

India is a price-sensitive market and this product can change the way the industry works here. Because we use 100% recycled paper we end up saving trees and thus contribute to saving our environment.

Henk: I can see and feel, especially at this exhibition (IndiaWood 2016), that the industry is facing tremendous pricing pressure, especially in wood related products. Manufacturers are desperately looking for alternatives.

That is where the Honicel honeycomb product offers the perfect solution. We now have a mill in Chennai which supplies us this kind of paper. So we now offer this green technology using local, made-in-India paper to Indian industry. It is also an eco-friendly product.

Are there any concerns about moisture?

Henk: Yes, that is why we come up with our standards. Paper has got a test standard of 3% . In Indian conditions we get paper anywhere

between 7-9%. So we have our own expanded drier that we sell to our customers.

How does it compare with tubular cores in terms of strength?

Giridhar: Initially, we came from the solid, flush door background and then we graduated to the tubular core and

“Because Honicel continuously develops new technology we are acknowledged as the World leaders. And that is why we keep progressing—we never sit back and say we are leaders so who cares..”

then to the honeycomb technology. That is how I have seen developed countries also evolving. Tubular core is a learning curve where you don't have to change very much.

But the honeycomb door is totally a new ball game where you cannot work from the veneer or the plywood technology. Flush door works on strength from "outside to inside": it is the frame and then the pressed core veneer that gives it strength. In honeycomb technology every square inch between both the panels is bonded. So the strength is from "inside out".

Henk: Architects, builders, service providers and investors should be educated; once they come to know of the wonderful advantages they will start recommending and using it. What is required is standardisation.

You can begin to industrialise and by this you get the benefit of economies of scale; you get more efficiency and quality; and through that savings. The Indian market is really keen for change now. I see it as a turning point; I realise that we are on the cusp of a change.

What else would you like my readers to know about Honicel?

Giridhar: We sell our product in a pallet, in an unexpanded form, to the end customer. It is only expanded on the customer's premises. One pallet occupies only 1,200 square mm, so our customer saves storage space. One such pallet can be employed to manufacture around 400 doors. Once you switch over to honeycomb technology you will realise that in every step there is saving.

But we don't position it as a cheap product: it is really a high-tech product resulting in high quality doors. Our customer needs to invest in capital to get advantages of the products. But s/he can save on raw material costs to invest on machinery.

“ We all know we need trees if we want to survive; if we want to breathe unpolluted air. Besides, we have the responsibility of handing over the world to the future generations in a better condition than how we got it

panel is extensively used in the door, furniture and partitioning industry: solid wood, particle board, block wood or any kind of wood-based product. I can include steel doors in this section: spot-welded steel reinforcements have given way to honeycomb infill to achieve a flat door.

The second use is in the packaging industry. When you laminate paper over the Honicel honeycomb you get a very strong paper panel that has a packing application which can replace thermocol. As you know Styrofoam is an extremely eco-unfriendly product.

This new product we call Honipak, which can be die-cut to any shape to make paper pallets that are incredibly strong. On an average a pallet has to carry a load of 300-350 kg; but with Honicel

How do you design your product for different loads? What about its thermal insulation?

Henk: It has an insulation and K value of still standing air. The cell size is the key: the smaller the cell size, the higher the load it can carry.

Is this product used in other industries also?

Henk: We have three main streams of industry that consider Honicel as core material. The sandwich

technology we can design a pallet that can carry loads of up to 3,000 kg.

The Honipak is one-tenth the weight of wooden pallets and its technology totally eliminates the use of nails that can damage the products you have to put on the pallet. Besides, a Honipak pallet allow you to carry greater loads and vastly improves transportation efficiency.

The third industry where this technology finds application is in automotive engineering. In combination with fibreglass and polyurethane the Honicel honeycomb can be shaped for use in the roof lining in cars and in automobile flooring. Audi, Volkswagen, Mercedes Benz, Rolls Royce, Ferrari and Bentley use our honeycomb technology in their cars.

What made you decide to set up a production facility in India?

Henk: We started our production three years ago, but as I mentioned earlier we started our marketing 30 years ago. Our strategy is that once your product is understood and accepted, then you have laid a certain foundation. As soon as sufficient orders start coming, we start local production and also service locally. This gives us more flexibility in terms of lead times and other shipping issues.

When you first came to India who were your customers?

Henk: At that time we targeted the construction and door industry, and my first client was Godrej. We always try and target the leaders, because once you have convinced them, the rest will follow.

I also introduced this marketing plan earlier in Europe with Ikea. The world's largest home furniture manufacturer makes all its panel furniture today on the Honicel honeycomb concept worldwide.

Honeycomb structures for panel furniture also?

Henk: Light weight furniture is the only way forward. If you wish to stick to the old-fashioned raw material consuming concept I know it will not be there for long because you will be out-priced in the market. If you go to Ikea's website you will clearly read about the honeycomb filler that they use, and they explain why they are going green.

As you know Ikea is opening stores in India. I can definitely say that it will change the whole landscape here: I have seen it happen in so many countries. The Ikea concept is very successful and globally appreciated, and if you wish to survive in the furniture industry then you will have to follow their smart ideas.

What about hardware compatibility?

“The Indian market is really keen for change now. I see it as a turning point; I realise that we are on the cusp of a change

Henk: Hettich has specific solutions for our products. They have a honeycomb series called Hettich Light. Other companies like Blum also have similar

hardware. This is all due to Ikea. At Ikea everything is based on Honicel, that's why all the hardware is available.

How was IndiaWood 2016 different from the previous ones?

Henk: You can clearly see that the industry is changing. They know from various sources, including the government

and suppliers, that raw material is becoming scarce. They now feel the responsibility and acknowledge that we can't continue to cut trees. Today, even the particle board industry is using the honey cell concept. Companies like Egger are not bringing in their thick particle board any more, and if they do at

least it has the Honicel core.

What are the challenges you face with your competitors?

Henk: We have our own R&D in the Netherlands and our machine manufacturing plant in China. I try to create a healthy competition between these and see who comes up with the best solution! That keeps everyone awake. That's how you continuously improve and develop new technology.

Have you patented any of your technology?

Henk: We do not patent it. I think when I apply for a patent and spend money, I protect history. I would rather spend my money on developing technology for the future. One of the new designers in our R&D department complained about competitors copying our machine. I told him that if it was not a smart design no one would copy it! Just maintain your leading position by being innovative: that is my personal philosophy. ■



Harvest time!



How to gauge if your efforts at a trade fair have borne fruit

Follow-up work once a trade fair is over is important. Your visitors may have had many meetings at a trade fair – very probably with your competitors too!

A study in relation to this carried out by AUMA (the German trade fair industry's umbrella organisation) found that more than 50% of trade fair visitors are unsatisfied with the work that exhibitors do after the show! The follow-up work you do after a trade fair gives you the perfect opportunity to distance yourself from your competitors.

What characterises good sales work after the trade fair? It is characterised by quick reactions and concrete action in relation to the visitors' concerns. Your visitors expect that you will keep your promises and, for example, that information or offers are sent without delay.

A thank-you letter sent directly after the

visit also ensures a sustained positive impression of the visit to your trade fair stand. But how do you manage to benefit from the experiences of all involved in the trade fair?

In addition to data from your trade fair market research, the feedback from all employees and service providers provide important points of reference that you need in order to optimise your next project. Feedback meetings and workshops should be held directly after the trade fair, so that impressions, praise and also criticism are not lost.

If you want to improve each time you appear at a trade fair, then do not miss this to chance. Analyse what objectives you have achieved, and to what extent you have achieved these. Only in this way you can continually optimise your activities at trade fairs and continue to build upon your success.

Evaluation norms

Evaluation of your trade fair contacts is surely one of the most important sources of information. The documentation of your meetings gives you precise information on the number and quality of meetings at your stand.

But passive contacts are also to be judged as a success. Anyone who was aware of you at the trade fair and how they became aware of you can be determined through visitor surveys.

Further important considerations are the convergence rate of your visitor invitation campaign, the number of contacts per stand employee, or also the number of contacts per target group.

Reliable indications of the success of your marketing instruments can only be obtained after continuous documentation of results over many years. Further attendance information can be obtained through data from your trade fair organiser.

Consider your results alongside your trade fair objectives. Factors such as how, and to what extent your results can be achieved are included in the planning stage. In addition, market research measures undertaken during the trade fair can be used to obtain reliable information on the achievement of the trade fair objectives.

With visitor surveys on site or online, you can gauge the impact made by your presentation, the level of visitors' satisfaction with meetings and visitors' willingness to invest.

Mystery visits to analyse the service quality and benchmark analyses to test your stand design – also in comparison to your competitors – are other effective instruments to gauge your success.

– The first part of this article, 'Planning for success: Rich rewards for concerted efforts', appeared in the Jan-Feb 2016 issue of WoodNews. Check it out at www.woodnews.in.

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Chalti Ka Naam: Lotay Automobiles!



Nirmal (left) and Amandeep pose with their wood car, which has a Maruti-800 engine and its accessories.



When two friends in Patiala, Mr. Amandeep Singh Lotay and Mr. Nirmal Singh, decided to make a wooden car, little did they realise the instant fame that they would be catapulted to. Both are automobile buffs since childhood, after watching the Bollywood classic, *Chalti Ka Naam Gaadi*.

Ceaseless wonderment has followed them everywhere they drive in all the three years that their car has travelled, including to IndiaWood 2016 in Bangalore. After earning a diploma in mechanical engineering, Amandeep began helping out at his father's 40-year-old furniture-making factory in the western Punjab town.

It was during a "slack season" at the factory in 2013 that he and his friend decided to refurbish the Lotay family's

well-heeled Maruti-800 petrol-driven car. The tried and tested (but not tired!) engine was mounted on a brand new steel chassis, which Nirmal fabricated at his workshop. As Nirmal manufactures agricultural combine harvesters in Patiala, this task was an easy one.

Amandeep next began working on the Madhya Pradesh (MP) teak, which he has bought for about Rs. 4 lakh, to fashion the entire body: engine casing, bonnet, dashboard, flooring, four doors, fenders and the bumpers.

These were sawed, treated, sanded, jointed, installed, bolted down and polished in the family furniture making factory, over a period of two months. The fuel gauge, speedometer and temperature display were also from the old Maruti-800. To their surprise,

Amandeep and Nirmal discovered that the "new" car weighed only as much as the original: 650 kg!

The new car has been running without a hiccup for the past three years, still averaging 17 km to a litre of petrol, asserts Nirmal. There is no vibration either from the engine or from the suspensions, because most sound and vibration is absorbed by the wood. Nirmal adds: "There have been no mishaps, and so no dents!"

Amandeep even claims to have pushed the new car to 120 km per hour!! Now the friends have established Lotay Automobiles and even fabricated a jeep. Interested in more? Write to amanlotay09@gmail.com.

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Toyota to drive a new 'green' concept



Toyota, the Japanese carmaker, is about to release a new "green" concept, one that is sure to twist a few heads. According to a news report, Toyota will release a woodwork concept for the Milan Design Week, beginning 11 April, in Italy.

The new car model is something of a surprise: instead of opting for a super-light and cheap-to-make metal chassis, Toyota's latest car model is made completely out of wood. What is more, the Toyota Setsuna is made entirely from scavenged material!

Toyota said that in Setsuna's

construction process, the engineers used only parts from dead trees, mainly Japanese Cedar and Birch, for the car's frame. The different types of wood are joined using an ancient and traditional Japanese woodworking technique called Okuri Ari (housed dovetail). Using this, the carpenters were able to erect entire sections without using nails, bolts or screws.

According to the car's blueprints, the wood vehicle will be not much bigger than a regular boat, measuring roughly 3 metres from head to tail; a width of 1480 mm and a height of 970 mm. The entire

concept will be powered up by an electrical drive that was given birth by Toyota's latest research into alternative engines.

Forbes reports that the two-seater Setsuna will use six lead-acid batteries, which can give the car a range of 26 km per charge, and a maximum speed of 45 km per hour.

Being made entirely of wood, the car will be able to age alongside its owner—Setsuna is equipped with a so-called "age meter", which tracks all the modification suffered by the vehicle from assembly line until its 100th birthday!



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'Smart' building in wood

Italy's Ecoarea 'training factory' is an architectural work with few precedents



Ecoarea is the best expression of eco-efficiency.



Ecoarea is an innovative example of "smart" buildings entirely made of organic architecture, certified with energy Class-A and with an extensive use of domotic technology materials that are eco-compatible.

From the basement, where the entire control system of the air-conditioning of the building is located, to the grass covered roof, Ecoarea saves and produces energy, as well as puts into practice what nature shows us.

Therefore, it has already become a showpiece for architects, students, engineers and energy managers. The building is of multifunctional use: on a total of more than 5,000 square metres, three levels and two outdoor areas (suspended garden and outdoors) serve as exhibition space.

It is the perfect platform for product presentations and green technologies,

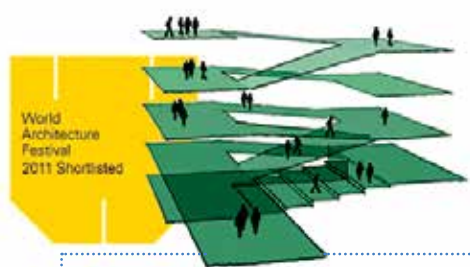
workshops, business meetings, design shows and any other events. A space for public and private entities interested in the benefits of eco-innovation and the intelligent use of energy resources.

Eco-efficiency

Ecoarea centralizes the knowledge and the expertise of many professionals who come and work here every day, to make business competitiveness co-exist with a new economic and social model, as well as a greener version of life. For this, Ecoarea is also characterized as a training factory.

Being a finalist in the categories of 'Structural Design of the Year' and 'Future Project of the Year' at the 2011 edition of the prestigious World Architectural Festival in Barcelona, Ecoarea is the best expression of eco-efficiency.

The internal architectural element that



The central void works as a natural vertical ventilation chimney.

links the four levels (the Expolab, the technological basement of the building, with the suspended garden, a roof covered with turf which houses a photo-voltaic system and solar panels) is called the “strip”, and it forms the backbone of the entire tour route of Ecoarea.

It is an ideal strip of bio-trass (Trasso is a natural product of volcanic origin) already known to the architects of ancient Rome. Trasso, wood and glass make up 90% of the building that, for this and other features of isolation and performance, is certified in energy Class-A.

The building has been thought as a hybrid structure, where the traditional “mortar and brick” method has been integrated with a “dry” technology of structural wood. The building needs very little energy and it is provided by renewable energies like the photo-voltaic at 20 kW pick.

Although, Ecoarea does not need much water, there is a system for the complete utilization of rain water that is used for gardening and domestic use. All the rooms overlook a central void, where the lowest point is placed in the auditorium, with a sliding glass roof above.

The latter, in addition to being element of visual continuity, works as a natural vertical ventilation chimney. Ecoarea is also equipped with home automation devices and car parks illuminated by LEDs that recharge the light of the sun.

Real ‘green’

Ecoarea is a multifunctional space created not only to “see” the green economy, but to live it and touch it with your hand. Designed to intercept and amplify each signal of innovation –

especially if characterized by a concern for the environment or from elements of well-being for the individual – its spaces allow to achieve things that would be difficult, if not impossible, to place in a conventional building.

With a “lung” in the basement and a grass roof, Ecoarea is a building out of the box: especially planned in order to experience in a healthy manner working time as well as leisure time. A better living provided by a device of the latest generation of air-conditioning: air quality in Ecoarea is, in fact, constantly monitored by dozens of probes for the detection of excessive levels of CO2.

At the approach of these thresholds, the building automation control system goes into action with the opening of the windows and the introduction into the public areas of pure oxygen.

The highest point of Ecoarea is always green. Thanks to a sophisticated technology of reusing water that allows the growth of a type of soft grass most of the year that turns the roof of the building (about 600 square metres) into a perfect location for parties, coffee breaks and business meetings.

It is an insulating roof garden, a solution very popular in Scandinavian countries and northern Europe. The outdoors area is a 700-square-metre urban exhibition area with shade structures, benches and bike racks.



Photos courtesy: Valentina Urbinati & Alessandro Quadrelli

The traditional construction in brick is married to “dry” wood technology, properly jointed with one another, both conforming to earthquake safety protocols.

Ecoarea is located in Cerasolo di Coriano, directly on the well known highway that leads from Rimini to the Republic of San Marino, bordering on one of the most beautiful corners of the hilly hinterland of Rimini. It is open to the public on weekdays: admission is free but requires prior registration.

For details visit www.ecoarea.eu/en.

From the basement to its grass covered roof, Ecoarea saves and produces energy.



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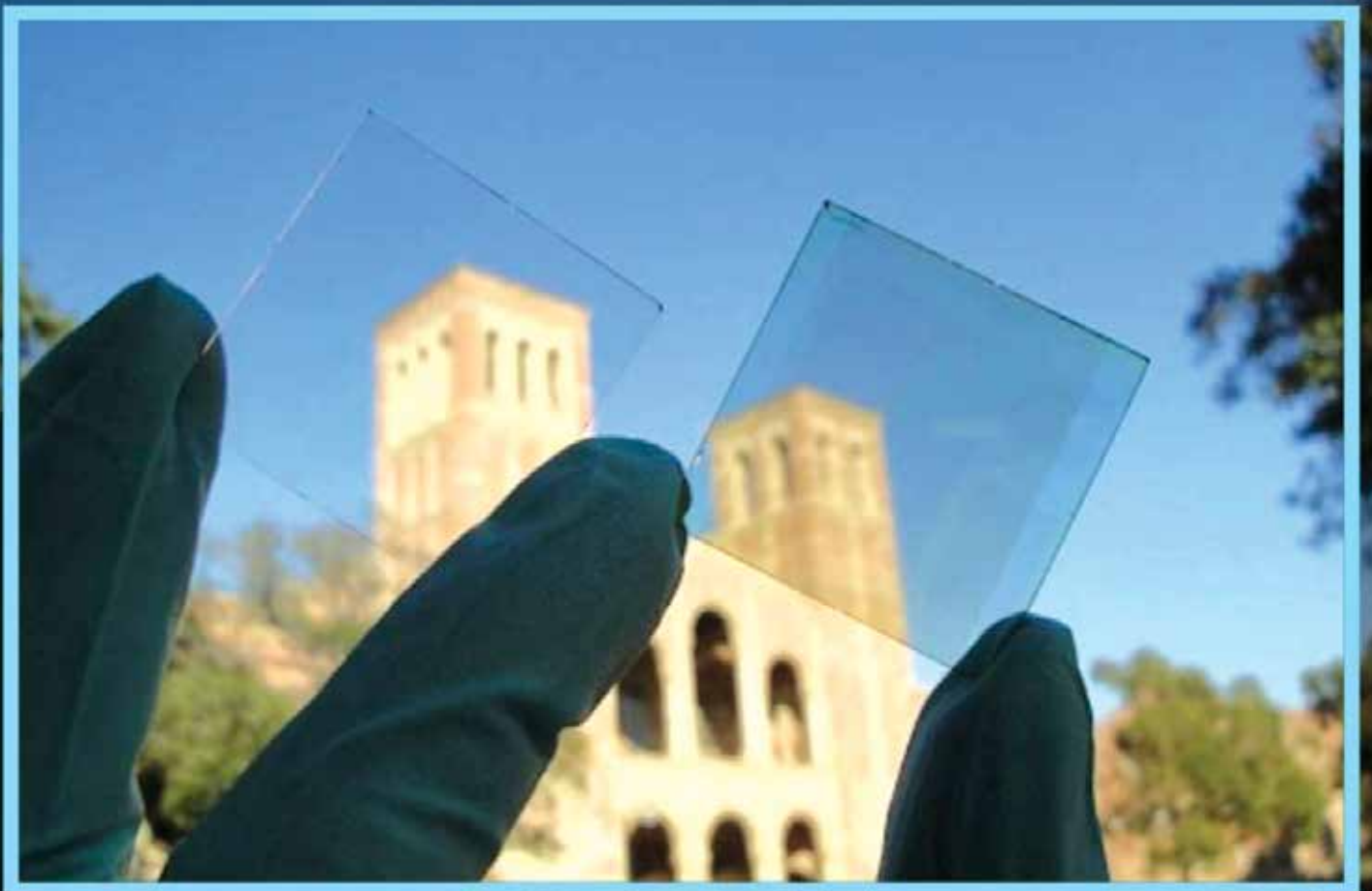
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Another 'window' of opportunity

Work begins on photo-voltaic windows to generate solar power



Researchers from the Institute of Photonic Sciences, in Barcelona (Spain), have already developed an organic solar cell with an increased level of transparency and solar-to-electricity conversion efficiency that could turn entire buildings into powerful energy generators.

Two companies, along with the Centre for Process Innovation (CPI), are participating in a trendsetting research project in UK that aims to develop windows that will generate their own solar power.

Business Standard reports that Merck, the German science and technology company, will collaborate with building-integrated photo-voltaic (BIPV) producer Polysolar, and CPI for the project.

The Innovate UK project, called Power Generating & Energy Saving Windows, aims to enable windows of the future to generate their own solar power and provide greater thermal control.

The project addresses the construction industry's need for so-called 'zero carbon' buildings by developing a transparent BIPV window that is capable of both generating power and controlling temperature. The commercialisation of such a device will reduce building energy costs while offering architects greater freedom in structural design.

Transparent solar glazing panels are easy to install in conventional framing, making them ideal also for surface applications such as windows, skylights, façades and roofing. The use of organic photo-voltaic cells is attractive for a number of sectors because it is adaptable, lightweight, transparent and low-cost.

The project builds upon the partners' existing early-stage research to develop a commercially viable power-generating window at demonstration scale based on organic photo-voltaic technology. An upgraded version of the recently launched semi-transparent gray-colour Lisicon (Lithium super-ionic conductor) formulation from Merck is a key element that will be further improved to help take this technology from a prototype to the market.

The window demonstrator will seek to achieve similar installation costs, transparency, performance and lifetime to that of high-performance glazing currently used in industry, while delivering energy yields comparable to those obtained by conventional photo-voltaic cells in a vertical orientation.

"The output of the project will be to produce large-scale organic photo-voltaic devices using sustainable, low-cost manufacturing processes. Once concluded, the project will provide the industry with the required lifetimes, dimensions and price points needed to evaluate how to take this emerging technology to market," said Mr. Dave Barwick, principal scientist at CPI.

Once solar power windows generate electricity from the Sun, how is that energy connected to the building? Each company uses a different approach:

some embed wiring in the window frame, which connects to a dedicated electrical line that conducts it to a central power inverter. The inverter then converts the direct current from the solar window to alternating current that is fed into the electric panel for the building.

Many buildings are not good candidates for rooftop solar power systems. Skyscrapers and large urban apartment buildings cannot participate in the clean power revolution that rooftop solar is bringing to many home owners. Solar windows could change that dynamic by providing the benefits of electricity from clean solar power to all buildings.

There are estimates that a skyscraper with south-facing windows could generate up to a third of its annual electrical needs from solar windows. Apply that to buildings around the world and you have the potential for a significant new source of clean, renewable energy that will pay for itself in a matter of months, rather than a period of years.

Adjustment at your fingertips



CargoFlexi wire baskets from Hettich were recently awarded the 'Most Innovative Product' for kitchens at the Indian Kitchen Congress 2016. The CargoFlexi is a unique system that takes the concept of modularity to the next level.

This product is conceived keeping Indian kitchens in mind, which are mostly elusive of standard under-counter partitions, resulting in fillers and eventually leading to wastage of space. This system provides flexibility to adjust to different widths, thereby facilitating

the optimum utilisation of available space.

The wire baskets are adaptable with a complete range of CargoTech inlets for cutlery, cups and saucers, plates and *thalis*.

This system finds extensive applications not only in the kitchen, but also in storage spaces in living rooms and bedrooms.

Features

- Available in widths ranging from 362 mm to 858 mm
- Possible width adjustment up to +/-25 mm
- Available in three different heights: 100 mm, 150 mm and 200 mm
- Compatible with both telescopic and Quadro runners
- Base material options: finger-joint wood and PVC board of 12-mm thickness
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- 10 years replacement warranty against rusting





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Jai enclave most happening at IndiaWood 2016

IndiaWood 2016 was a noteworthy event for Jai Industries: the company had lined up very many happenings and offerings to mark it, which were appreciated by all visitors to the important event.

The Jai Industries stall has always been, and was this time too, one of the major attractions for visitors to the exhibition. It had the biggest stall, which was divided in two sections: one was for its Modula range of panel processing machinery, and the other for jai's WudPro range of solid wood machinery.

The Jai enclave remained popular with visitors on all days, and their time was well rewarded with inspection and live demonstration of a wide variety of woodworking machinery. Thorough information, insight and guidance was provided by experts, service and marketing teams of jai Industries.

They helped visitors with understanding their needs, identifying their specifications, determining their budgets, and selecting the right machines. In addition, Jai's dealers and distributors from all over India were also

present, making customer experience very convenient and friendly.

Jai Industries celebrated this event with the highest number of new machine launches. The WudPro range was enhanced by the additions in the 'Prima' series of premium quality, high-end feature-and-finish machines. The Modula range also saw a large number of launches in the edge bander series and upgraded models with commanding performance features.

Jai Industries has a record 4,50,000 machines installed in various locations across the country. It received the highest number of orders and enquiries (including many from overseas) at IndiaWood 2016.

Its Managing Director, Mr. Nirav Shah, said: "Our core vision is perform with spirit of excellence in everything we do, with focus on customer satisfaction, which ensures world-class quality and value for money deals for them."

Hafele unveils Stellar, Slido and Cornerstone



The never-seen-before Slido sliding systems for wardrobes enables the installation of up to three aluminium framed doors weighing up to 80 kg.

Hafele introduced its range of wire baskets, 'Stellar', during IndiaWood 2016 in Bangalore recently, while also showcasing the products by Blum and Vauth Sagel.

These are products that effectively use the space in the kitchen, be it in the form of an unused corner, wasted gaps under the countertop and blind edges that leave no or little room for accessing cabinets. The company also introduced some unique innovations in sliding systems for wardrobes.

Stellar wire baskets work on Blum Tandem runners with built-in Blumotion for seamless drawer transitions. The entire range, which has been carved out of SS-304, provides extreme durability, guarantees easy assembly and provides unique 3D adjustments for the fronts.

The range is available in three width options of 450, 600 and 900 mm; and three height options of 100, 150 and 200 mm; with a standard depth of 500 mm.

These wire baskets are complemented by a new range of compatible organizers for *thalis*, plates, cup and saucer and jars/bottles and comes with a lifetime warranty.

Hafele introduced the never-seen-before



*Stellar wire baskets are complemented by a new range of compatible organizers for *thalis*, plates, cup and saucer and jars/bottles.*

Slido sliding systems for wardrobes, permitting the installation of two or three aluminium framed doors weighing up to 80 kg. It comes with an inbuilt double-side, soft-closing mechanism designed for a smooth and noiseless sliding operation.

The Classicx Duo 80 VF series is also available for wooden doors, along with a warranty of 10 years on the design against faulty manufacturing or operational defects.

Cornerstone, from the house of Vauth Sagel, has a swivelling system component for corner cabinets that extends the entire contents out of the cabinet when pulled outwards. Here, the travel path is controlled and is confined to the area of the corner cabinet carcass.

This ensures that the neighbouring cabinets or the dishwasher, for example, is not impeded. Other space-optimising solutions showcased by Vauth Sagel are Wari corner that is the most optimized bet among classic corner cabinets.

The second variant of the Legrabox series, Legrabox Free, is characterised by large design elements that offer the freedom to individualise the design of pull-outs. The design elements go beautifully with the drawer side, regardless of whether it is made of glass, wood or other materials, and provide full visibility from all three sides.



The Cornerstone's travel path is controlled and confined to the area of the corner cabinet carcass.

Keep going, keep growing



The sparesindustrial.com stall at IndiaWood 2016, and Mr. Sunil Karande.

If you take a trip around some of the wood-based manufacturing facilities around the country, you could understand the wear and tear that the machines undergo. There is always dust and high temperatures, and a lot of machines are in non-stop operation.

Many of these machines are expensive ones that execute precise operations to offer the quality your clients are asking for. There is also the safety aspect. Needless to say that a sloppy maintenance approach usually comes with sloppy procedures!

There is only one way to keep your business going, and that is through regular and good maintenance.

For Mr. Sunil Karande, National Business Development Manager (wood operations) of sparesindustrial.com,

there are four golden maintenance rules: keep out the dust; keep out the heat; get your operators skilled and trained to employ the capabilities of your machines correctly; and use only quality spares.

"Dust and heat can be dealt with, and accurate operations is a matter of craftsmanship. You need to understand the right adjustments, the right speed of operation and how to use the tools," he explains.

"Using quality spares is a different story and quite often people make the mistake of waiting with the replacement of a component up to the very moment the machine breaks down. It is obvious that this approach will cost you more time and money in the end. Preventive maintenance is the key," Sunil says.

His golden rule is: check and replace the machine components on a regular basis – and never hesitate to ask for expert advice!

Visitors to IndiaWood 2016 clearly recognized the need for good quality spares and components to maintain their valuable machines, he notes. "The show was a good example for us to realise that offline and online activities should go hand in hand."

E-commerce websites are the future and, over time, more and more customers will discover the ease of checking the specifications and selecting the components, the value of online assistance, and the quick ordering and payment options, he adds.

(www.wood.sparesindustrial.com).

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Wood protection with natural oils



The "outdoor" oil protects all woods in outdoor areas such as teak and garden furniture, pergolas, wooden terraces, against weathering and active ingredients that prevent fungal growth and protect against UV rays.

With the new Surfix oil dispenser from Festool, applying oil to natural wooden surfaces has never been so easy. Simple dosing, economical oil consumption, as well as optimal protection against drying up make Surfix an indispensable aid in surface finishing.

Three high-quality natural oils cover all areas of application in inner and outdoor areas. Those who treat natural wood with oil are familiar with the unpleasant side effects. Difficult dosage when applying with a brush or textile cloth results in too much oil on the surface. This also results in excess oil on hands and clothes.

The oil in the canister is often only required in small quantities and it is not unusual for the remaining quantity to dry up. And, finally, it is sometimes dangerous when disposing the used textile cloth because they soaked in oil and are flammable.

With the new Surfix oil dispenser oil can finally be applied in a clean manner and finely dosed. Surfix is the combination of a handy 0.3 litre oil bottle and a sponge. The safety valve on the bottle guarantees accurate dosing of the oil and, at the same time, prevents the oil drying out.

Advantages of Surfix:

- The "one-step" oil is particularly suited for decorative, less demanding internal areas such as wardrobes, shelves and living furniture. The areas can be oiled and waxed in one work process.
- Oil application is clean, quick and ergonomical and significantly more economical than before using the Surfix oil dispenser.
- Simply click in and start. The oil bottle is also a handle. This way hands stay clean and the oil quantity is simple to dose.
- The "heavy-duty" oil is perfect for highly demanding areas in internal areas, such as countertops, dining tables, stairs and children's toys.
- The "one-step" oil is particularly suited for decorative, less demanding internal areas such as wardrobes, shelves and living furniture. The areas can be oiled and waxed in one work process.
- The oil dispenser can be stored in the white tin supplied which keeps it clean. The tin has a secure seal and the sponge stays soft for a long time and can be used again and again.
- The 0.3-litre oil bottles are each available in a pack of two for the three natural oils.

The sponge ensures even distribution, absorbs excess oil and reapplies it precisely in the right place. And what's very clever is the white tin that can be used as a sponge holder to keep the sponge soft for a long time so it can be used again and again. It is also effective in preventing ignition.

Surfix adds the finishing touch to professional surface finishing with oil. For an optimal result Festool recommends the following process:

- Sand the wooden surface to be oiled using the ETS eccentric sander or the Rotex geared eccentric sander
- In final sanding using the abrasives Rubin or Brilliant 2, depending on the requirement in grit sizes P180 to P240.
- Carry out the targeted application of the oil which can be finely dosed. For an optimal result it is recommended, after a reaction time of 15 minutes, to grind in using the eccentric sander (ETS or Rotex in fine sanding mode) and the green non-woven pad
- Remove the excess with the premium cleaning cloth.
- To achieve a perfectly oiled surface, the oil application can be repeated if required and polished using the white non-woven pad for finishing.

Natural oils

With the three oil types, heavy-duty, one-step and outdoor, Festool offers high-quality natural oils that are solvent-free and particularly ecological (all sweat- and saliva-proof viz DIN53 160).

"Heavy-duty" is optimally suited for heavy-duty woods in internal areas such as kitchen worktops, furniture, parquet



You will be well-equipped for natural surface finishing with the Surfix oil dispenser set that contains an oil dispenser with three oil bottles, an oil sponge, sanding cloth and discs.

flooring or children's toys for example, and produces a hard, resistant surface.

The "one-step" oil allows surfaces to be oiled and waxed in one step. It is particularly suited for less demanding or decorative surfaces in internal areas such as wardrobes, shelves or living room furniture, for example.

The "outdoor" oil is intended for use in outdoor areas and ensures the optimal

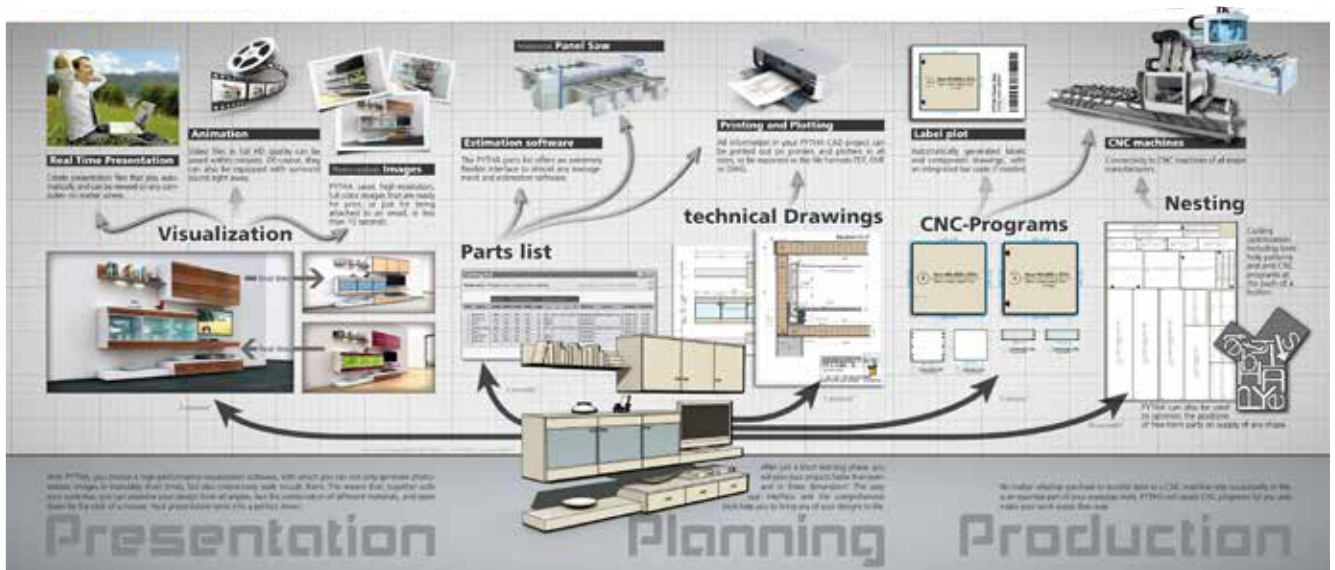
protection and appearance of all furniture and components such as teak and garden furniture, pergolas, wooden terraces, fences and children's toys. It is also suitable for use on tropical woods such as Bangkirai.

This oil impregnates new wood and freshens up old wood – and includes natural active ingredients that prevent fungal growth and protect against UV

rays. Thanks to the good dosage, a surface up to 10 square metres can be treated using a 0.3-litre oil bottle. For larger oil applications, oils are also available in 5-litre canisters.

All in all, Surfex offers natural surface protection using natural oils that are not harmful to the environment and are solvent-free, clean and quick application. More at www.festool.com.

Pytha CAD/CAM brings in German precision



Pytha 3-D CAD/CAM software has entered the Indian market offering a one-stop solution in the design and manufacturing of panel-based (plywood/ MDF/ particle board) and wooden furniture, interior and retail designing and training.

It is a powerful and intuitive German software for planning high-end bedrooms, simple wardrobes and luxury range kitchens. Customers also employ Pytha for commercial joinery, contract furniture and highly detailed bespoke joinery.

Using Pytha's patented footprint technology, Pytha 'Workshop'

automatically creates construction methods for pieces of furniture (dowel, screw, cam-and-dowel). Edge banding, router paths and other manufacturing tasks can be assigned directly to the 3-D model.

This data can then be easily transferred to a CAM post-processor to automatically generate boreholes, integrate miter and joinery connections, perform edge banding assignments, routing of parts and edges, sawing with respect to grain direction, besides nesting and part optimisation.

Pytha's advantages include 2-D and 3-D construction within one system; easy

and intuitive fast learning curve; high-end presentation of your designs and fast technical drawings.

Its data interface seamlessly integrates with CNC machines with German precision. It also has an extensive parts library (fittings, profiles, etc.)

Vely Services, with offices in Mumbai and Vadodara, are retailers for the German software.

(www.woodencadcam.com).

Bessey has tailor-made solutions



Bessey constantly develops new products to ensure it keeps pace with new work processes and assembly procedures that are regularly introduced into the market. For instance, the longest screw clamp, the TGK malleable cast-iron screw clamp, weighs around 9 kg and clamps work pieces of up to 3 metres.

The smallest spring clamp, the Clippix XC, has a clamping width of 20 mm and weighs just 10 gm. Whether cabinets or models, the company offers a wide range of tools that is perfectly tailored to meet the requirements of professional craftsmen.

The tool manufacturer from Stuttgart, Germany, is well known for the quality of its products. What makes the company stand out is its ability to customise its products. This combination makes it unique and secures its position in a competitive market. The company has, today, established itself as a leading manufacturer of clamping tools.

Bessey's impressive range of products and accessories include the **Omega GMZ** screw clamp that provides maximum flexibility and safety for day-to-day workshops and on building sites use. The patented bend is vibration-resistant and as a result the clamping force is

retained in spite of severe vibrations.

The user requires less strength for clamping and the force can also be defined very precisely, which is particularly beneficial when machining delicate surfaces.

One-handed clamping with a force of up to 5,000 N is possible using the EHZ one-handed clamp. It can be used wherever work is above head height or if an additional tool is required when aligning.

The STC variable toggle clamps are ideal for all jobs on the workbench. The range comprises horizontal and vertical toggle

clamps and push/pull clamps, each with various base plate designs.

The STC toggle clamps five times quicker, as their clamping capacity adjusts to the work piece automatically with almost the same clamping force. The K-body parallel clamping tools are intended for clamping and spreading over large areas. They are indispensable aids for constructing furniture and cabinetry.

The **KliKlump KLI** high-tech lever clamp is an invaluable tool for assembly work, or when simultaneously using multiple clamps. As it is made of stable magnesium it is light but tough and can be used wherever fast, secure and versatile clamping is required.

The modern technique of installing door frames using assembly foam requires special tools, and with the door frame installation system is made noticeably easier. When filling the wall joint with foam, the door frame is supported exactly using the TU door frame brace and can be aligned with the TFM door frame straightening clamp.

The WTR angle door frame straightening clamp fixes the frame corners neatly and stably. The TUX door frame brace extension completes the professional installation system. In combination with the TU, extra-wide doors can be installed.



Tools for the toughest demands

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Finishing Systems



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Hand Planers



Simple, easy, reliable: Barberan's *mantra*



Options for trimming at different points.

Barberan's machines are now designed to integrate various requirements into a continuous process flow. Flat lamination, trimming and edge banding of panels is now speeded up with machines that are able to laminate the whole board, post form the edges and trim the overhang.

The result is a completely finished board that is ready for further processing, in less time and with only one production line. This results in low costs and high quality for an integrated handle without any joints and overlaps, with only one pass wrapping.

The SpeedPress series with a maximum width of 1400 mm and the PUR 46-FR with 460 mm can work with paper foils, PVC, PP, PET and CPL on coil with a

speed from 20 metres/minute up to 40 metres/minute, depending on the durability and rigidity of the used foil.

The machine, above all, allows getting most common post formings that are used on doors. With a simple, quick tool change angles of 30°, 45° and 90° with a radius from 0.5 to 5 mm, are achievable.

With this new method of continuous production for integrated handles, Barberan offers kitchen and bathroom door manufacturers and clients the perfect machine for efficient production of the latest trends in door design, at low cost.

Barberan's new production installation, the KL 1400 L-SI, is for high gloss foil and hot melt glue, applied by means of

slot die, including an efficient cutting system to remove all foil surplus around the boards.

Barberan has installed a new production line for double sided lamination of particle boards with high-gloss foil. This line is equipped with top and bottom slot dies for the application of PUR hot melt glue, suitable for high-gloss foil lamination.

Up to 20 metres/minute working speed can be achieved with this line, thanks to the precise cross cut and edge foil surplus cutting knives. The result is approximately 10 completely finished boards per minute. This optimizes the production process and reduces the need of further manipulation, saving production costs.

(www.barberan.com)



Barberan's quick-fire, high-gloss line, the KL 1400 L-SI.Z



WOODNEWS

WoodNews thanks the various companies that have submitted information. For any editorial submissions, please contact Mr. Dhananjay Sardeshpande, Chief Editor, at ghananjay@pdatradermedia.com. The information published in this, *Notes and News*, *Indiawood Products* section is as per the details furnished by the respective manufacturer / distributor. It does not reflect the views of WoodNews or of the management of PDA Trade Media.

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3 new products from Egger



Egger has launched three new product innovations during the current season. The first is the new PerfectSense melamine-faced boards, which is a premium category of high gloss and matt decors, was displayed at IndiaWood 2016, Bangalore, recently.

The second product is the Feelwood synchronised pore surfaces that blend grain and texture designs. Finally, there is the new Egger POS, which is the new concept of “Brand in space”.

The high-gloss PerfectSense gloss and the no-fingerprints feature on PerfectSense matt are the first two highlights of this first new product category that uses the tried and tested Egger MDF quality.

Matt surfaces are associated with high value and are predominantly used in

high-end furniture production. The new surface PerfectSense matt significantly stands out among other matt surfaces, and removes the need for constant removal of fingerprints from furniture.

The Feelwood synchronised pore surfaces bring together, in perfect harmony, melamine-coated boards that are colour-safe, light-fast, scratch-resistant and easy to clean. These are now not only available on Eurodekor chipboards, but also on laminates and compact boards with matching end grain edge.

A simplified process enables anyone to simply select from 12 colour and decor worlds structured by themes, unique textures, various high-quality coreboards and a matching selection of edging, all available from one source.

The new “Brand in space” innovation turns the advice and contact between salesman and customer into a multifaceted experience. The Egger POS is the spatial expression of how advice and sales can be successfully structured during contact with the customers.

The concept generates emotions through its inviting and flexible design, standing out from conventional solutions in the POS. From laminate flooring, right through to the decorative range of products for furniture and interior design.

Egger has also brought out an application called the Egger POS App, to facilitate easy interface between the user and the company.

Engineered Precision



Plunge or fixed. No compromise.

Designed by woodworkers for woodworkers, the multi-award winning **TRA001** has been the benchmark in professional routers around the world since its release.

One of the most significant features of this machine is its ability to switch from a conventional plunge router to a fixed-base mode router with rack and pinion height adjustment at the push of a button.

Simple ideas are often the best and the 3-stage, pre-set height adjustment system is a perfect example. It only takes seconds to remove the plunge return spring, which then allows for easy lifting and adjustment of the machine using the built-in height winder when mounted in a router table.



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**EXCHANGE YOUR OLD MACHINES
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Accoya checks into Mumbai 5-star hotels



Accsys Technologies' world renowned modified wood product, Accoya, has been used in the construction of JW Marriott's Sahar Hotel in Mumbai. Accoya is being used to clad the external facade and to construct individual poolside gazebos and walkways.

Exposed to high coastal humidity all year round and an annual average rainfall of over 2,000 mm during the four-month monsoon season, the hotel chose Accoya for its stability and natural appearance.

Accoya delivers outstanding levels of performance that include dimensional stability, durability and sustainability. The Accoya modification process creates one of the most advanced modified wood

products currently in the market, and ensures that cladding retains its natural aesthetic without warping or bending, regardless of weather conditions.

Ms. Laura Ladd, head of marketing for Accsys said: "Accoya offers outstanding durability that matches and exceeds the properties of tropical hardwood and is guaranteed for 50 years for use above ground.

"For cladding projects, the product is capable of withstanding hot and damp conditions. It is therefore the perfect choice for the hotel that experiences temperatures of up to 40°C all year round," she added.

Mr. Niraj Thakkar, business manager of

the Indian distributor, RitikaaWood said: "Accoya was recommended to the hotel because of its performance and resilience in the intense Indian heat and heavy rain. The other main practical benefit considered by the hotel was the low maintenance cycle required with Accoya, limiting the length of down-time."

Made with FSC-certified wood from legal, manageable and sustainable forests, Accoya is an attractive wood product, which is cradle-to-cradle gold certified. The product offers outstanding durability and stability, while retaining its aesthetic quality in the harshest of weather conditions.

Vector Projects brings 'floating' furniture concept



The assortment of applications built into one desking system allows users to share information easily.

With a majority of time being spent at work, it has become essential to make office furniture functional and comfortable to ensure optimum productivity and efficiency. Keeping this mind, Vector Projects has introduced an "E-Stilts" desking system that is inspired by stilt houses, which acts as a pile driver of strength on its foundation.

The E-Stilts desking system is a simple, ingenious and adaptive work bench for an entire range of application in an open workplace. It can be modified to not only function as a staff workstation, but as a manager workstation or conference table.

It can be restructured to suit the working style of any specific need of an individual. It can be modified to various shapes like Linear, L-shape, 120-degree or an executive shape. The system offers the utility of a sturdy desk, while at the same time allowing agility of a compact workstation.

It is designed to solve one of the basic challenges faced by small offices – a cluttered work space with several pieces of furniture and accessories. This assortment of applications built into one desking system allows users to share information easily.

It also enables versatile work setting with added storage for documents, while incorporating the current trends of design and modularity. The system creates higher workstation density to optimize office layout. This in turn helps employees engage and amplify their performance.

It creates an ecosystem with option of multiple-posture spaces that encourages people to sit, discuss, stand and move throughout the day, while supporting different kind of activities.

E-Stilts desking system is assembled from five parts that can be individually customized as per requirements. It consists of a leg profile, table arm, panel, wire tray and a wire riser. With add-on structures, the desking system can be further personalised to cater to all kinds of needs.

Established in 2001, by a first generation entrepreneur Mr.

Umesh Rao, Vector

Projects is an integrated turnkey interior solutions provider in the residential and

commercial space, offering interior architectural designs to complete interior fit-outs.

Artmatrix, a leading brand in modular furniture and chairs with manufacturing facilities in Malaysia, is one of Vector Projects' in-house brands. With headquarters in Mumbai and with presence across India in major cities (Delhi, Pune, Bangalore, Chennai, Hyderabad and Ahmedabad), Vector Projects also has offices in Dubai and Malaysia.

www.vectorprojectsindia.com

It creates multiple-posture spaces that encourages people to sit, discuss, stand and move throughout the day.



Tuffwood Gold going pan-India



Tuffwood founder, Mr. Naresh Choudhary, at the recently-concluded IndiaWood 2016 in Bangalore.

Tuffwood India Pvt. Ltd., a business entity of the R.B. Group, was established in 1998. Under the brand name of 'Tuffwood Gold', it has now expanded to become one of the largest plywood dealers in Karnataka.

Based in Bangalore, Tuffwood India already has branches in Mysore and Hubli, in Karnataka, and has expanded to Kolkata and Mumbai, to offer greater coverage across the western and eastern regions of the country. It is now in expansion mode, adding many more offices, distributors and a retail network across India.

Emerging as one of the largest suppliers of wood and plywood materials, Tuffwood India has in stock products worth more than Rs 1,500 lakh, with the objective of providing timely service to its customers. The wide range of premier plywood and board varieties are imported from China, Indonesia, Vietnam, Myanmar, Sri Lanka, Thailand and Malaysia.

This stock is stored in sizeable and well-organised facilities with over 80,000 square feet of work space. Equipped with state-of-the-art security facilities and other modern amenities, the warehouses are protected with the latest technology.

The Tuffwood Gold brand founder and Managing Director, Mr. Naresh Choudhary, said: "Customers can look forward to world class products that will meet their requirements of quality and durability. Simultaneously, these boards will provide a stunning and eye-catching range to choose from."

Tuffwood India also deals in top-quality block boards, laminates, doors, MDF, particle boards, veneers, flexi and shuttering plywood. For more information

visit www.tuffwoodgold.com.



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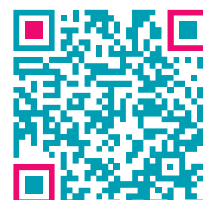
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Feature-packed router from Triton



Triton, originally an Australian company, launched its range of award-winning woodworking tools during IndiaWood 2016. Triton participated under the MVS Global stand, and the initial response is very exciting, as per a company representative.

Precision has been at the very heart of

Triton's philosophy since 1976, when the first workstation was produced. Triton tools continue to be built with this philosophy at the forefront of every project.

From award-winning routers and laser-guided circular saws, to the industry-renowned Superjaws and now

the highly acclaimed TWX7 WorkCentre, Triton tools provide an accurate, quality finish every time.

Triton plunge routers have been the front runner since the first launch, with features and safety unmatched till date. The most prominent feature is the rack-and-pinion plunge dial with micro adjustment. In effect you have both a plunge router and a fixed base router in one product.

One of the coolest features is the automatic spindle lock at full plunge for single wrench collet removal. The right handle has a button that switches the router from traditional free-plunge to rack-and-pinion dial adjustment, giving users a more controlled plunge into the work piece.

When you plunge the router to full depth, the shaft lock engages and locks out the power switch (preventing accidental starting), allowing for single-handed bit change -- a unique feature.

The plunge stop system is very easy to use and gives the operator three stopping points, two with measurements. The multi-function

Dust shield





Micro adjuster



Plunge mode butt 'On'

fence for edge guiding and (small) circle cutting, can be taken on and off very quickly without any additional tools.

When fitting to a router table the Triton plunge spring comes all the way out with one screw. The height adjustment knob is very smooth and works really well, and when you crank the spindle all the way up, you hit the TRA001's best "table feature": the spindle locks by itself and the switch cover is closed.



Triple Plunge Stop

Side air vents reduce intake of dust into the motor casing when mounted upside-down in a router table. It also has an excellent dust extraction system for cleaner, safer working environment.

With the collet completely above the table surface, and the spindle locked,

changing out bits is both very simple and safe. One doesn't have to fiddle with holding the spindle lock or using a wrench under the table. For a multi-router shop, the Triton is a perfect choice for the table.

Main features:

1/2" and 12-mm collet for a greater range of bit fitment

2400 Watts, 3-1/4HP motor provides enough power for even the toughest timbers

Automatic spindle lock engages only when power switch cover is closed



Spring removal

Soft start and variable speed provides the perfect speed for all cutter types

Single button switches from plunge to fixed based router with rack-and-pinion adjustment

Micro winder enables continuous fine depth adjustment through the full plunge range

Rack-and-pinion height adjustment

Table winder eliminates need for expensive lifting mechanisms

Electronic speed control ensures fine finish on all materials

Removable plunge spring for easy bit adjustment when table-mounted



Single-Handed-Bit-Change



Switch guard

3-stage turret with direct reading scales for precise pre-set cut depths

Fully enclosed guard for protection from cut zone, dust extraction

Multi-function fence for hand-held use and circle cutting



Variable speed switch



Table feature

Quick-fit pins for fast fitment and removal from the fence and RTA300 router table

Easy access allows end user to change worn brushes

Safety switch shutter locks to prevent router being switched on

(www.tritontools.com)

Fossil-free car with carbon fibre roof

A research team from Innventia, Swerea and KTH Royal Institute of Technology has developed a model car to demonstrate that lightweight, fuel-efficient cars of the future can be made using bio-based material.

The raw material can also be used in batteries, which is said to reduce the use of fossil-based materials and fuel.

The Swedish research institutes Innventia and Swerea are now able to present the first model car with a roof made of a carbon fibre composite based completely on softwood lignin.

In cooperation with researchers from KTH, the car has also been equipped with a battery in which lignin-based carbon fibre is used as the electrode material. The car is toy size, a demonstrator manufactured on a small pilot scale, but this is a major step towards realising the vision of new lightweight materials from the forest as part of the future bio economy, according to researchers.

Lignin is a by-product of paper pulp manufacturing and can be produced cost-effectively. Using lignin could lead to significantly increased access to a raw

material that is also bio-based.

Even ordinary cars and other everyday products could be produced from carbon fibre. A lighter car lead to lower fuel consumption or longer ranges for electric cars.

The next step, according to researchers, is a process line on a pilot scale with continuous production in order to identify the challenges that could arise when scaling up. In addition, larger quantities of carbon fibre are required to evaluate composites and composite components.

Russia regains PEFC endorsement

Russia has successfully obtained re-endorsement of its national forest certification system from PEFC (Programme for the Endorsement of Forest Certification), confirming that it meets the agency's globally recognized sustainability benchmarks and ensuring that Russian certified forest owners and companies can benefit from the global acceptance of PEFC.

With the Russian Federation containing an estimated 800 million hectares of

forest, the equivalent to over 20% of the world's forest area and more than Canada and Brazil combined, the continued development and increase of sustainable forest management in the country will have considerable environmental, social and economic benefits.

The initial endorsement of the Russian Forest Certification Scheme expired on 31 August 2015.

PEFC remains the only global forest

certification system to limit endorsements of national systems, requiring standards revisions before a system can re-apply for endorsement.

Revisions are required to ensure that latest scientific research, practical experiences and best practices from the field, but also evolving values, expectations, and aspirations of society towards sustainable forest management are systematically incorporated in these revisions and then implemented at national, regional and local level.

Govt. targets 81,000 homes for urban poor

The Union Ministry of Housing and Urban Poverty Alleviation (HUPA) has approved funding for construction of 81,757 homes for the economically weaker sections (EWS) of society.

Seven states will benefit from this plan, that is estimated to cost around Rs.41 billion. Of this, the ministry will provide around Rs. 12 billion based on Rs.1,50,000 per home to be built for the

benefit of urban poor under the Prime Minister's 'Housing for All' mission in urban areas.

To date, the government has approved funding for over 5 million homes for the poor. The government is targeting assisted construction of 20 million houses for urban poor.

Exports drop

A year-on-year drop of exports in 2015

was seen in of many of India's wood products, the exception being wooden furniture and other articles of wood.

While 2015 exports of some wood products beat expectations, the prospects for 2016 are not good. January exports of all products fell almost 14% from a year earlier, according to data from the Union Ministry of Commerce and Industry.

In the face of declining exports the government is expected to announce incentives in the upcoming budget. The Indian Prime Minister is pushing a 'Make in India' drive focused on raising export earnings. – ITTO

Malaysian Timber Council to open office in India

As part of its marketing strategy for 2016, the Malaysian Timber Council (MTC) plans to set up a regional office in India to tap into the growing market on the sub-continent.

According to its Chairman, Mr. Wee Jeck Seng, the MTC organised a buying mission involving more than 20 Indian importers to the Export Furniture Exhibition (EFE) as well as the Malaysian International Furniture Fair in early March. In August, a Marketing Mission to India will be mounted.

"India is a tough market to penetrate because its duties are very high. However, under the Free Trade Agreement (FTA), the duties have been



revised and this has made it more competitive for Malaysian products to be in the Indian market," said Mr. Wee.

The FTA, a collaboration between ASEAN and the Indian government, provides special trade privileges to both countries.

"We have formulated our budgets and programmes to focus on, among other countries, China and India, which are the biggest consumer markets in the world today," he said.

In terms of fair participation in China for 2016, MTC was present at the 35th

International Famous Furniture Fair in Dongguan (March) and Domotex Asia/ Chinafloor in Shanghai (March), and will also participate in SylvaWood in Shanghai (June).

Through its Guangzhou office, MTC will be making its debut at the 38th Japan Home and Building Show in Tokyo in November this year.

MTC's CEO, Dr. Abdul Rahim Nik says, "While Europe, the US and Australia have been our traditional markets, for the past 12 years or so we have also been developing market share in emerging markets such as West Asia, North Africa, Turkey and the former Soviet countries."

In timber product related exhibitions in Europe, MTC will be setting up booths in Carrefour Du Bois in Nantes, France (June), SPOGA & GAFA in Cologne, Germany (September) and Timber Expo in Birmingham, UK (October).

For a complete listing of MTC's activities in 2016, visit www.mtc.com.my.



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Study takes a look at translucent coatings on beech

The aim of a study by German researchers from Georg August University of Gottingen was to improve the weathering performance and to maintain the colour stability of modified wood.

Beech (*Fagus sylvatica* L.) wood boards modified with thermosetting N-methylol melamine (NMM) and phenol-formaldehyde (PF), partly with a dye added (NMM-dye, PF-dye), were coated solely with a translucent water-borne acrylic binder and a formulation containing the same binder and UV-protective agents.

Untreated and NMM modified samples became lighter. The applicability of the coating on the modified boards was similar to that of untreated control boards, but the drying times were prolonged.

Capillary water uptake of modified, uncoated and coated boards was clearly lower than that of respective controls. Dry and wet adhesion of the coating film and the proportion of

wood fracture were higher on the modified substrates than on the controls, but no clear difference was observed among the modified boards.

The colour stability during weathering depended in the modification and coating. Untreated and NMM modified samples became lighter, while PF-modified boards turned darker.

The weathered coating on the modified boards, particularly with PF resin, showed less blistering, flaking and cracking than that on the controls. The coating on all resin-modified boards maintained higher adhesion during weathering than the controls.

UV-PA stabilised the colour and adhesion on all boards compared to the single binder formulation. The study shows that wood modification with NMM and PF improves the weathering performance of wood coated with acrylic coatings.

Combined modification with staining can diversify the optical appearance of wood coated with translucent finishes.

Courtesy: www.sciencedirect.com.

Kapci sets up coatings factory in Bangalore

Egyptian paints and coatings manufacturer, Kapci, says its newly built factory in India will be operative within the second half of 2016. According to Mr. Mohamed Rateb, Kapci's sales and marketing manager, the investment cost of the new factory is US\$12.5 million.

Kapci is the first Egyptian company to build a coatings factory in India. The factory is built on a space of 50,000 metres near Bangalore. The location of the factory is based on scientific and marketing studies conducted by Kapci.

Rateb said the factory is set to be an export hub from where its

products can reach the South-East Asian region, backed by India's free trade agreement with the 10 member states of the Association of South-East Asian Nations (ASEAN). The free trade agreement reduces the tariffs on a majority of traded goods between India and ASEAN: Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Cambodia, Laos, Myanmar and Vietnam.

Kapci Coatings India Pvt. Ltd. is a company incorporated in November 2009. It is classified as a subsidiary of a foreign company and is registered with the Registrar of Companies.

Ceratizit saw band wins innovation award



Tool manufacturer QSGS Technology has received the Polish Gold Medal for innovation for the Armoth Professional CTE band saw, recently developed in collaboration with the Luxembourg-based Ceratizit.

The saw band is the first joint project in the three years of cooperation between the two companies. It was nominated as one of the 12 most innovative products at the international exhibition for machines and tools for the wood and furniture industry.

In the past the saw tips were welded to the carrier band, but this resulted in two difficulties: First, finishing and regrounding

become very complex and costly. Second, a broken saw tip cannot be repaired any more.

Using the new method, the tips are now brazed instead. The advantage is that a damaged saw tip can be easily replaced or reground. Furthermore, the selection of the carbide grades can be varied flexibly.

The high breakage and wear resistance of the carbide saw tips means that the band saw can be used for longer before it has to be sharpened again. There is an increase in the saw's service life by 500% on average. In addition, the rolls no longer have to be readjusted during operation.

The carbide grade chosen by Toolmaker Solutions by Ceratizit is KCR10, which is ideal for applications with all wood types and offers an optimum balance between hardness, corrosion resistance and transverse rupture strength to ensure the best possible performance, including process security.

For more than 90 years, Ceratizit has been a pioneer in developing exceptional hard material products for cutting tools and wear protection in several application areas. Its subsidiary in India goes in the name of Cobra Carbide.

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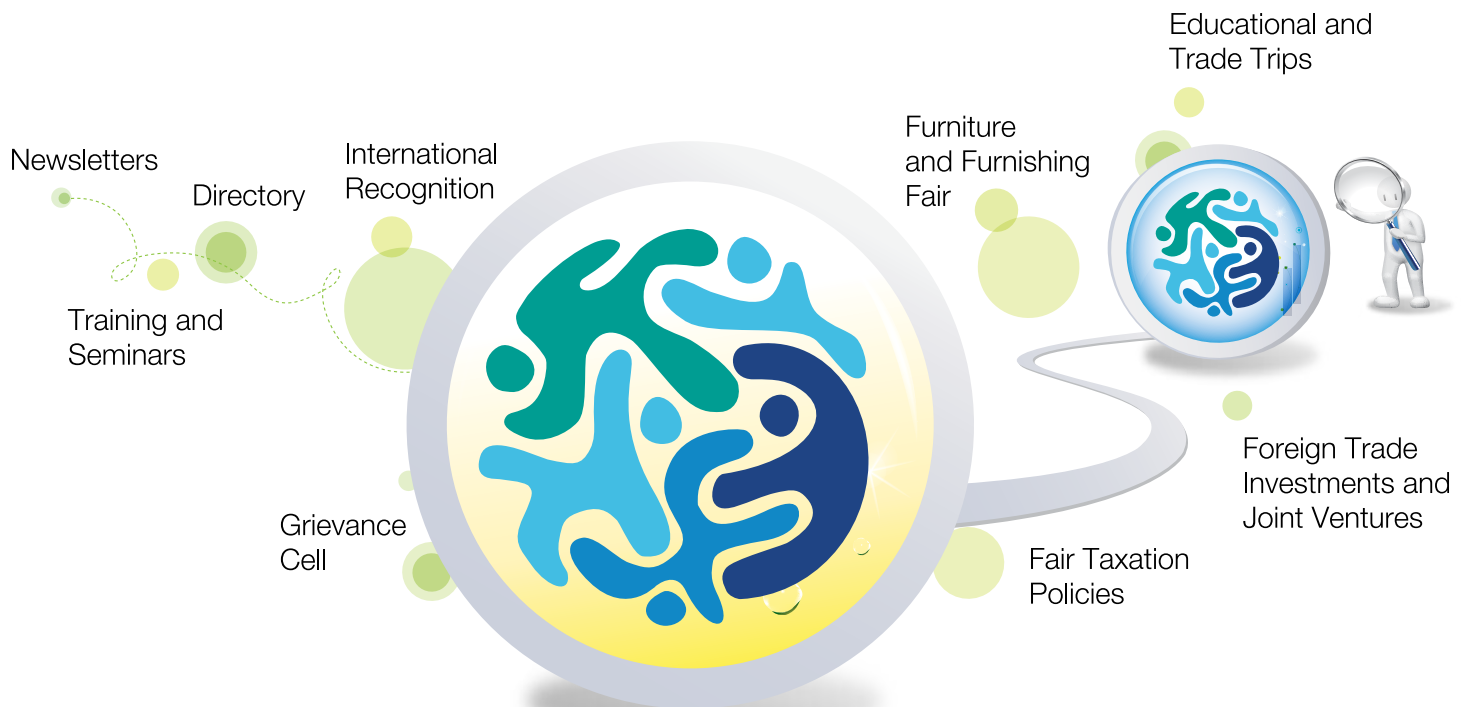


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Green fire-rated doors from Sauerland

Sauerland Spanplatten has been active in the Indian door industry since 2008 and has introduced the tubular door concept enriched with their vast experience for 63 years and spanning exports to 65 countries.

This year Sauerland have upscaled the technology for the Indian door industry to introduce fire containment cores through their channel partners in India, for door set passing the 1-hour rating using Sauerland cores as per BS476: Part 22: 1987, or as per IS3614: Part 2: 1992.

The specialty of fabricating fire containment door with Sauerland core is that it eliminates use of any inorganic material in the construction (gypsum board, cement board or calcium silicate or fiberglass), making the door light weight and 100% recyclable. With additions of certain accessories one can make the door fire safe; smoke arrestor as well as sound reducing up to 38 dB.

Now for the first time in India, builders and architects can avail a triple acting door set which provides for the much necessary fire protection of 60 minutes, clubbed with sound reduction of 34 dB and clubbed with smoke containment technology.



Sauerland cores have very low formaldehyde level of E1, which means they are safe for internal use in residential buildings. These are the most light-weight fire doors, highly performance oriented for the 30- and 60-minute fire rated door category now available in India.

Do it yourself

All a door manufacturer needs to do is arrange the red/white Meranti timber with minimum 650 kg/m³ density, with moisture content under 10% for door frame and door leaf. Sauerland offers intumescent sheets and strips and fire-rated

hardware. It recommends BR201G MUF powder glue and 6-mm HDF skin (density 850 kg/m³) or very high interleave bonded plywood as skin to suit the application.

With this package making a "green" fire-rated door can make the manufacturer sell to the fire containment business, which is increasing by the day due to the increased construction of high-rise buildings. Sauerland offers to help door manufacturers with the processes; so catch up with them at IndiaWood 2016! (sleekboards@gmail.com).

Hydraulic hot press J-120T1



Adequate maintenance is a crucial factor for longer life of any machine, and to obtain optimal working results from the machine itself. However, all maintenance must be done with the machine turned off and after wearing protective gloves.

The machine and working area must be kept clean from working scrap and anything that could hamper the working cycle, or access to the machine itself. Material not needed by the machine can gather on it, preventing safe operation and causing danger to the operator during the normal working cycle.

Regular cleaning of the machine and, in particular, the platens and cylinder rods, are an important safety factor, but do not use detergents or lubricants. Check whether there is any leakage on the oil cylinder flange and the platen fixing flange on

cylinder rods are loosened once a day, and tightened timely.

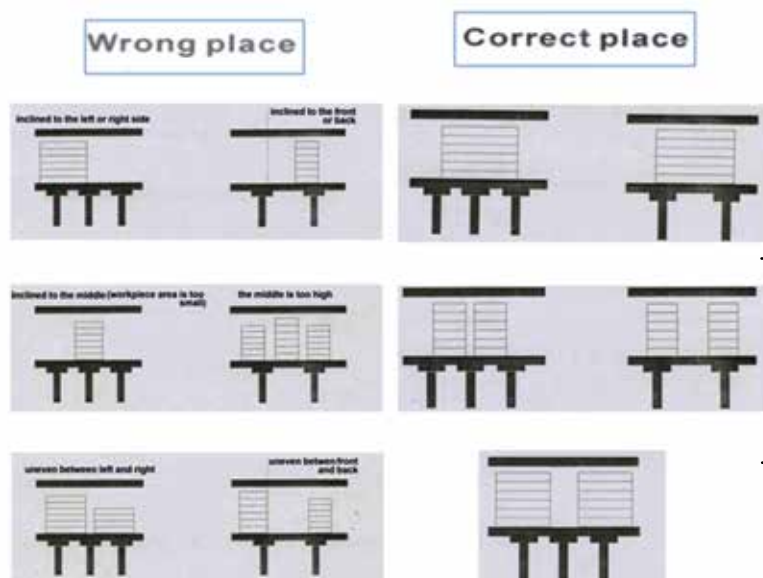
Check whether there is any leakage on the oil line once a day regularly examine and repair it. Make sure the machine is lubricated regularly.

Check the electric system safety for the condition of the electric cables. Make sure there are no signs of wear, scrapes and cuts.

Do not press work pieces that are too large or too small for the machine to handle.

Check the rotation of oil pump and hot oil pump; check the clamping of various mechanical components; check the oil level in the tank weekly, and top up if necessary. If the oil is too dirty, replace it immediately.

Problems	Causes	Remedies
Machine switches off by itself during operation	Power short circuit or tripping operation	Remedy cause of phase failure.
	Too hot to shut down the circuits	Adjust the circuits and reset the hot relays
Work table unbalance	Misplace between balance tooth of rack and lifting gear wheel	Adjust the mesh.
	Oil cylinder flange is loose	Tighten it.
Oil leak on any joint	Loose	Tighten with PTFE tape
No effect on pressure	Pressure valve or electromagnetic ball is damaged	Change a fitting value
	Oil circuit has leakage	Check and repair.
Motor switch ON but press is not ON or high noise from oil pump	Oil pump	Replace pump.
Pressure gauge into pressure too fast	Hydraulic control one-way valve or electromagnetic ball is damaged	Change it.
Oil raw foam	Inlet link leakage	Tighten or change it.
	Liquid level too low	Feed oil up to level.
	Oil quality wrong	Change oil.
Platen has swing while lifting	Lifting balancing rack was damaged.	Replace it.
Oil pump gives out heat or under pressure of oil pump	Oil pump was damaged	Repair or replace the oil pump.
	There is dirt in the overflow valve.	Clean and repair the overflow valve or replace it.
Platen cannot keep constant temperature	Temperature controller is damaged	Replace it.
Platen not lifting after pressing the button	Power supply has been shut down	Switch on.
	Problem in power phase	Check and correct it.
	Breaker not connected	Connect it.
	Thermal relay or contactor problem	Check and replace it.
	Electromagnetic valve is damaged	Check and replace it.
	Pressure gauge problem	Check and replace it.
	Intermediate relay is damaged	Check it & replace it.



Before pressing the work piece, one must choose the correct placing position according to its actual size and height. It is strictly prohibited to place or press the work piece unevenly with uneven thickness, to avoid the machine getting seriously damaged.

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EVENTS CALENDAR

Myanmar Wood

12-15 May 2016

Venue: Tatmadaw Exhibition Hall, Yangon, Myanmar

The leading event for woodworking machinery, furniture production and interior design industry in Myanmar, the event is the most efficient platform for reaching this emerging market, projected by the International Monetary Fund (IMF) to grow at 8.4% in 2016. With rising labour costs in China, it is expected that a sizeable portion of the Chinese woodworking industry would consider moving furniture production base to Myanmar. The exhibition is organized by the Myanmar Industries Association, and officially supported by the Republic of the Union of Myanmar Federation of Chambers of Commerce & Industry. www.myanmar-expo.com

XYLEXPO

24-28 May 2016

Venue: Fiera Milano Rho Fairgrounds, Milan, Italy

Xylexpo, which held its first event in 1968, is one of the most important international shows in Italy. At the 25th edition, for five days thousands of skilled professionals from all over the world will come to see the best woodworking technologies first hand, as well as the best materials and components for furniture manufacturing. www.xylexpo.com

WMF 2016

01-04 June 2016

Venue: China International Exhibition Center (CIEC) Beijing, China

The 16th international exhibition on woodworking machinery & furniture manufacturing equipment and the international exhibition on woodworking machinery supplies & accessories, with an exhibiting area of 60,000 sq metres and over 600 exhibitors, will focus on intelligent and green manufacturing solutions. www.woodworkfair.com

Woodex for Africa

09-11 June 2016

Venue: Gallagher Convention Centre, Johannesburg, South Africa

Woodex for Africa is the country's only expo focussing exclusively on the timber industry. It creates a platform for woodworking professionals to connect with specialised dealers, to catch up with the latest timber trends and to secure new business contacts. Held annually since 2012, it presents a wide range of machinery, tools, fits and finishes, components, equipment, new technology and materials in the timber industry. www.woodexforafrica.com

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The advertisement is for SONI OFFICE MATE Furniture TOUCH-UP Markers. It features a hand holding a marker and applying it to a wooden surface. Text highlights benefits: 'Color fast, Long Lasting, Dries in Seconds.', 'Hides scratches', and 'Chips and worn edges'. It states that the markers come in 6 different colors and are used to restore the color of wood. Three color swatches are shown: Oak, Maple, and Walnut. The ad also mentions it is designed for light, medium, and dark brown finishes. At the bottom, it provides contact information for the manufacturer, SONI POLYMERS PVT. LTD., and a note about ISO 9001:2008 certification.

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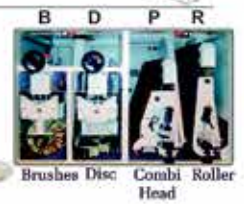


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