

# WOODNEWS

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**28**  
Years

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## FRENCH TOAST-OF-THE-TOWN!

P.32

Master craftsman Bram Rouws is shaping his dream factory and

design studio for custom-made hardwood furniture in Mysuru

### FEATURE

With cultivation of *Melia dubia* (Kaadubeevu) bearing fruit, Hunsurply's Moiz Vagh points to the way forward

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### EDUCATION

Biese helps boost new training programme at Bengaluru's IWST

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### SPECIAL FOCUS

Investing right in new and renovated kitchens is great value addition

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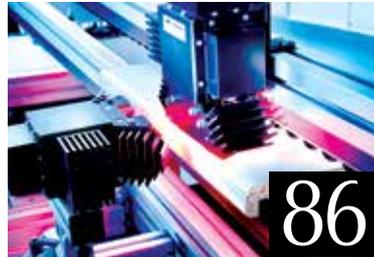
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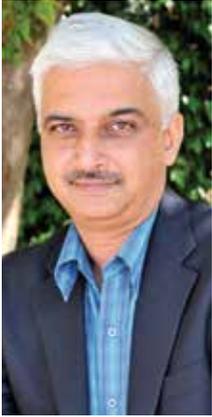
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# PM's push, a designer's dream & industry education

Dear Readers,

Some good news has come in the form of the Prime Minister, Mr Narendra Modi, recently announcing a bouquet of administrative measures for small industries, mainly to enhance their access to credit and markets. The

an ebullient Frenchman who lives and breathes wood in his studio in Mysuru. Bram believes furniture that has very little human involvement has "no soul". And he practices what he stands for – good design, great craftsmanship, and sharing knowledge as he grows in experience.

He has managed to attract a gang of young and enthusiastic trained designers and experienced carpenters in his workshop, who work on the most modern woodworking tools and machines. His tailor-made furniture has also attracted the attention of scores of architects and interior designers, many of who are his "collaborators".

The woodworking industry across continents and nations seems to be battling one common problem – the lack of adequately skilled and dedicated workers in its factories and workshops. In India we have an ad hoc approach to hiring in the furniture sector – legions of wood industry workers are even now illiterate, uneducated, untrained and unskilled. But the bigger problem here is one of education and training.

True to its concern for expansion of the industry, Biesse India has (once again) collaborated with the Advanced Woodworking Training Centre (AWTC) on the campus of the Institute of Wood Science and Technology in Bengaluru. The AWTC has now launched a diploma course in advanced woodworking to train carpenters, machine operators, factory floor managers and production heads, in line with the industry's demands.

Needless to say we in India need to not only provide for technical education, but also lay more emphasis on woodworking as a career. With that thought to ponder for the future, the *WoodNews* team wishes you a Happy New Year!

## FROM THE EDITOR

DHANANJAY SARDESHPANDE

outreach programme is expected to help the MSME sector, a major employment generator and a significant contributor to economic growth. Some of the opportunities that have emerged for the MSME sector are:

- An online portal that approves loans of up to Rs 1 crore in "59 minutes";
- Loan interest concessions for GST-registered manufacturing entities;
- Easing compliance with environmental rules to establish new factories;
- Eliminating cash flow problems by introducing the Trade Receivables e-Discounting System;
- Annual compliance reports on labour laws and Central rules.

On the cover this time, we have featured the philosophy and business of a highly skilled carpenter and master craftsman, Bram Rouws,

### STAYING IN TOUCH

In keeping with the times and for ease of communication, WoodNews has discontinued the printing of Business Reply Envelopes with each issue of the magazine.

However, we continue to welcome your views and reviews of happenings in the industry, your contributions to and suggestions for the magazine, as well as business proposals via email.

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1

# Hunsurply points to the way forward

One of the oldest surviving plywood manufacturers in South India, Hunsurply is all set to expand. A movement by its Managing Director, **Mr. Moiz S. Vagh,** to bump up cultivation of *Melia dubia* (locally known as Kaadubeevu), is beginning to bear fruit. Kaadubeevu and Silver Oak are now in adequate stock to feed the plywood industries around South India, he told Roy Thomas in a tete-a-tete.

**1** With a lot of emphasis on quality at all stages of production, Hunsurply is sold at a premium.

The plywood industry in India was set up primarily to cater to the requirements of plywood chests used for exporting tea from Assam, West Bengal and Kerala. As per records, the first two plywood factories in the country were set up in Assam in 1923-24.

Globally, the first mention of plywood dates back to 1870, when the process of using a rotary lathe veneer manufacturing is

described. Subsequently, plywood was introduced into the United States in 1865 and industrial production started shortly after. In 1928, the first standard-sized 4'x8' plywood sheets were used as a general building material.

Plywood is an engineered wood from the family of manufactured boards which includes medium-density fibreboard (MDF) ▶

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2

**2** *Hunsurply's Founder and Managing Director, Mr Moiz Vagh (right) is now assisted by his son, Mr Aziz Vagh.*

and particle board and has many structural advantages. Plywood has been proven to be stronger than steel and a great variety of products in various sizes and shapes can be manufactured.

**Early days**

The small town of Hunsur, where the Hunsur Plywood Works is located, appears stuck in a time warp with its quaint tiled buildings and languid and leisurely pace of life.

Established in 1946 as Coorg Timber And Plywood Corporation, it was set up, along with Western Indian Plywood which was set up in 1945, to meet the growing plywood requirements of the tea industry in South

India, and can definitely claim to be one of the earliest factories in South India.

Hunsur was selected as the location by virtue of its geographical proximity to the forests of Chikmagalur and Coorg, two important sources of raw material. In 1961 Coorg Timber and Plywood Corporation, which was running into losses, was taken over by the Vagh family to become Hunsur Plywood Works Pvt. Ltd.

Mr. Moiz S. Vagh, the soft-spoken Managing Director who has been working in the company since 1963, says that the factory was dilapidated and run down at the time of the takeover. Coming from a family that had been trading in hardware, it was a steep learning curve for him.

The family had, till then, been involved in the business of supplying hardware to one the largest tea companies in South India, the Kannan Devan Hill Produce Company. Realising that there was a requirement for plywood to manufacture tea chests they explored the possibility of taking over a running factory and eventually bought over this loss-making unit.

The total factory production at that point in time was around 1,500 square metres comprising of mainly 4-mm plywood. Gradually, from just plywood for tea chests, the company started deploying the slicing machine, which was hardly being used till then, and began the manufacture of commercial and decorative plywood, which is now the mainstay of the business.



3

**3** *Besides imported species, locally sourced Silver oak and Melia dubia feed the plywood factory.*

## FEATURE

After the takeover the company was revamped thrice and new machinery installed. Today, the expanded plant has an approximate 60,000 square feet area built on a 3-acre site.

### Raw material

“Procurement of raw material was the biggest problem and was a constant headache,” recalls Moiz, “Timber was mainly sourced from private forests and plantations. Since our emphasis on quality was non-negotiable, good timber had to be sourced for the factory. This was a very difficult and hindered any plans for expansion.”

Even now a lot of emphasis is on quality: for instance while the price for 18-mm plywood in the market is Rs. 55-65 per square foot, Hunsurply is sold at a premium of Rs.100-110 per square foot because of its quality.

Later, the government allowed the Forest Department to give large tracts of forest land or ‘coupe’, for the harvesting of timber. Each tract of land was in the region of 4,000 acres with each coupe being around 80 acres; but accessibility to many of the areas was extremely difficult.

Roads had to be laid to these forest areas by the concessionaires and elephants were used to move the logs after it was cut. Finally, heavy-duty, four-wheel-drive trucks were used to move the logs to the factory.

The company paid great attention to conservation and the health of the forests and only 5-6 trees per acre were harvested. The Forest Department also ensured that replanting was done to compensate for trees cut. “We practiced sustainable forestry even then,” remarks Moiz, who is passionate about conservation.

Only around 5 months of the year (November to May) were available for the felling of trees as these coupes were located in high rainfall areas that experience over 150 inches during the monsoons. The reasonable cost of the logs, which were fixed by the government, made sourcing from these evergreen forests attractive.

The wood that was preferred was from species such as *Kalpina (gurjan)*, *Velapina*, *Pandapina*, *pali* and jungle mango.

However, in 1983 the Government banned the extraction of timber from forests in an attempt to protect them. Subsequently, timber became exponentially more expensive as sources dried up.

The company then started sourcing timber from Burma (now Myanmar) and the logs were brought to Mangalore port. Timber was also sourced from Central India and Madhya Pradesh.

Earlier, the company was into the manufacture of marine plywood which was exported to several ▶

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4

4 Among the machines deployed are a guillotine, cross-feed and zig-zag splicers, core jointing machines, sanders, glue spreaders, presses, roller driers for thick veneers and chain driers for thin veneers.

countries. Teak plywood was also manufactured and was in great demand.

“Even now dealers in Iraq and Bharain talk about Hunsurply’s Swan brand, which was very popular and the company won several awards from the government for export promotion,” Moiz recollects.

#### Ensuring quality

“Ideally, for producing quality plywood the timber has to be brown, the four sides should be clear and it should not be hardwood. The density of the wood should be around 0.5 -0.7 g/cm<sup>3</sup> but more importantly it should be peelable,” he notes.

This kind of wood is available only in the evergreen or semi-evergreen forests. According to Moiz, to produce good quality veneer, teak, rosewood, mahogany and beech are the best. These are procured from certified African and European plantation timber suppliers.

Stepping into the factory one notices a number of American black walnut and white oak logs in the yard that are being prepared for processing. The factory is equipped with a comprehensive range of quality machines that are required to ensure a good product.

These include guillotine machines, cross-feed and zig-zag splicers, core jointing machines, sanders, glue spreaders, presses, roller driers for thick veneers and chain driers for thin veneers.

Once inside the factory the log is subject to various processes that include cross-cutting,

slicing and peeling (0.6mm gauge), clipping, drying, gluing, hot press treatment, trimming and sanding before the layers of veneer are converted into plywood. Finally the finishing, grading, inspection of the finished plywood is carried out before it is despatched to Hunsurply’s depots and distributors.

#### ‘Miracle tree’

The unified Goods and Services Tax (GST) has been a boon for the industry after the tax rate was reduced from 28% to 18%. However, the government’s insistence on phyto-sanitary clearances for imported timber causes delays and consignments are sometimes stuck at the port of arrival for long time.

Although trained labour is potentially a problem with demographic changes that are seen over the country, the company has, till date, prevented attrition with excellent management practices that ensures the labour force is well looked after.

Quality has always been a top priority for the business, and this has been achieved at Hunsurply by proper training, supervision and imparting of knowledge.

Currently, Hunsurply has been managing with imports and locally sourced Silver Oak (*Grevillea robusta*) from plantations in southern states. Moiz, who has been involved in social forestry for over 30 years, has identified *Melia dubia* as one the species ideal for growing throughout the country. Today, it is being touted as the ‘miracle tree’ that should help solve the shortage of raw material for the plywood sector.

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As a board member of Indian Plywood Industries Research and Training Institute (IPIRTI), Moiz has encouraged deeper research into this species and it is already being grown in several areas of the country. *Melia dubia* belongs to the neem family and has inherent anti-bacterial and anti-fungal properties that prevent termite infestation.

The use of formaldehyde – a colourless, potentially carcinogenic, water-soluble gas – in the manufacture of glue is another challenge the plywood sector must address, Moiz says.

Hunsurply, he says confidently, uses glues that have been developed in-house, and have emissions that are well within safe parameters.

**Plywood market**

“The market will never be a problem,” feels Moiz, “This is a country of 1.3 billion people. In the earlier days people had a solid wood fixation and plywood was considered as second-rate material. Today, this perception has changed and plywood has found its deserved place in the furniture market.”

Hunsurply has a strong dealer network in Karnataka, Tamil Nadu, Andhra Pradesh and Telangana. “We focus on carpenters, interior decorators and architects to provide the necessary push. B2B channels are also used to sell our products in a limited way,” he says.

**Expansion plans**

“Expansion is very much on the cards as our

survival depends on this,” notes Moiz, “Our factory capacity, which is currently 4,000 square metres per day, has to be increased, and more systems have to be put in place while ensuring the quality that ‘Hunsurply’ brand is known for, is available at competitive prices.”

A Chinese peeling machine has already been installed and the order for an imported core composing machine has been placed. Drying capacity is to be doubled and higher capacity driers have also been ordered,

When all the machines are in place the management anticipates that the turnover, which is currently around Rs. 40 crore, will have doubled.

Moiz, who is now assisted in running the company by his son, Mr. Aziz Vagh, notes that in the 1970s the United Nations had declared the Hunsur factory as a model for the plywood industry in India.

He takes equal pride in the fact that Hunsur Plywood Works has spawned five new businesses related to the wood industry. Today, the Rs. 200-crore Vagh Group, run by members of Vagh Family, has activities that include manufacturing of doors and frames, decorative veneers, finger-jointed boards, furniture handling equipment and veneer moulded components. “We will continue to grow and provide quality products to the market,” he concludes.



**5** In the 1970s the United Nations had declared the Hunsur factory as a model for the plywood industry in India.

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**1** *The Muar furniture industry produces a wide range of high quality furniture including home, office and outdoor furniture. Many companies have expanded into large export houses.*

# Muar is 'Furniture City' of Malaysia

Collaboration between manufacturers' association, government and trade agencies could show the way for India

The theme of next years' Malaysian International Furniture Fair (MIFF) will be 'Muar, the Furniture City of Malaysia'. The fair organisers have indicated that over 200 furniture manufacturers based in Muar, making up half of all Malaysian exhibitors, will showcase a wide range of products.

Enterprises in Muar account for about 70% of Malaysia's furniture exports. Furniture manufacturing in Muar can be traced back to the small-sized family businesses in the early 1980s. However, in just a few decades Muar was transformed into a thriving city with a place in the global furniture trade with over 700 factories, which ship 6-7,000 containers every month.

Today, it is the foremost furniture hub in the country, earning considerable foreign

exchange for the country. In 2012, for instance, Malaysia's total furniture export stood at RM 8 billion, of which the share of Muar Furniture Association (MFA) was approximately RM 3.6 billion.

The Muar furniture industry produces a wide range of high quality furniture including home, office and outdoor furniture. In addition to small and medium sized factories, many companies have expanded into large groups.

Currently, there are eight furniture companies listed on Bursa Malaysia that include big names such as Poh Huat, SWS, SK Furniture, Lii Hen and Wegmans.

To ensure local factories have sufficient raw materials the government banned the export

of sawn rubberwood. Government support for the sector also comes in the form of competitive loans to encourage greater automation to address the labour shortage in Malaysia and to speed up production, quality and efficiency.

### Strategic partnership

“The Muar factor has been an integral part of MIFF from the very start. As we celebrate our 25th year milestone, it is fitting to pay tribute to the vision and hard-earned reputation of Muar furniture makers who are the trailblazers of Malaysia’s rise as a global furniture exporter,” says Ms Karen Goi, MIFF General Manager.

The MFA-MIFF strategic partnership has worked very well since 2013. The diversity of international buyers brings real business opportunities to existing and new companies, and this invariably boosts Malaysia’s furniture exports and expands its global network.

Muar was officially accorded ‘Furniture City of Malaysia’ in April 2018. At the same time, a 400-hectare Muar Furniture Park was launched, to be ready in 2 years, to accommodate more factories and expand the industry.

Since 1982 the MFA, which accommodates all furniture and furniture parts manufacturers in Muar, has been the main driving force to make Malaysia one of the most outstanding furniture manufacturing nations in the world.

In an effort to give its members international exposure and recognition, MFA organises regular exhibitions, and collaborates with several agencies to establish a strategic alliance to jointly promote international furniture fairs, to ensure that members have a better sales platform, and promote international business.

The fast growing furniture industry in Muar saw many cottage industries and small factories shifting their operations to industrial estates to establish furniture manufacturing clusters with essential supporting industries.

The abundance of sub-contractors also ensured Muar’s global competitiveness in price and quantity. All these effort have contributed to making Muar into the internationally renowned Malaysian Furniture City.

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# Agro-forestry is good timber resource

Corn, coffee, cattle, and other crops can be raised on land that also supports cultivated timber. This symbiotic approach, known as agro-forestry, has clear ecological benefits – and it could become a new asset class for timberland investors.

The opportunities and obstacles to expanded agroforestry are explored by the *Global Agroforestry Review*, a new report from RISI Analytics, a leading information provider for the global forest products industry.

“Public concern about environmental impact is mounting on agri-businesses, and on the pension funds and others who invest in them,” said Mr John North, RISI International’s timber economist and co-author of the report, along with RISI Director of International Timber, Mr Bob Flynn.

“Timberland investment management organisations (TIMOs) and other investors should recognize the risks of current ‘monoculture’ approaches and the potential for agro-forestry to mitigate those risks. Agro-forestry is not a panacea, but it offers tangible benefits,” said John.

## ‘Silvo-pasturing’

The review is the first study of its kind from RISI. The report combines a survey of agroforestry methods with in-depth analysis of their potential value for investors and the forest products sector.

Agro-forestry is an accepted practice throughout much of the world. Important cash crops, such as corn and rice, are planted in rows among eucalyptus trees in Brazil, India, and other major agricultural exporters.

Coffee and cacao are harvested from timber-producing forests in Latin America and Asia, and cattle graze among cultivated pines in Argentina – a practice called “silvo-pasturing”. Researchers and landowners in the US and Brazil, among others, are exploring how agroforestry methods can be scaled up worldwide.

Promising agro-forestry projects include a recent investment by PSP, one of the largest pension funds in the timberland space, in a Brazilian coffee producer that integrates timber and coffee operations.

The new RISI report also describes a mixed-crop plantation developed by Global Forest Partners in Cambodia, and efforts to promote silvo-pasturing in South America by Eldorado, a major global pulp producer.

## Mixed cropping

Cash crops harvested annually can support farmers, land owners, and investors while trees mature. The trees can prevent erosion and provide shade, while benefiting from the water and fertiliser applied to other crops.

Institutional investors face growing scrutiny of their practices, especially in the developing world. Agro-forestry programmes can demonstrate active support for the well-being of vulnerable farmers and ecosystems.

Agro-forestry has yet to attract significant investment from TIMOs, but John and Bob believe that the conditions are right for growth. “In our research for the review we found that the investment community believes that agro-forestry is fine for farmers, but very difficult to do on a large scale. It seems to complicate forestry operations, and there’s uncertainty around valuation of land that’s managed for multiple crops and end-users,” said John.

“Based on our review of agro-forestry worldwide, we believe that this concern about scale somewhat misses the point. It doesn’t have to be all or nothing,” John said.

Agro-forestry could comprise only a small portion of a timberland fund while adding considerable value, both through mitigating risks on-site and by improving relationships with farmers, communities, investors, and other stakeholders throughout the supply chain, he added.



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1

# Sweden has sustainable, modern material

Up to 70% of Sweden's land area is covered by forests, most of them coniferous. Sweden is the third largest exporter of sawn timber in the world. Its sawmill industry has many years' experience in global exports, and Sweden's geographical location makes it possible to reliably deliver wood anywhere in the world.

Swedish forestry has a long tradition of sustainability and recognises that economic,

social and biological sustainability are all cornerstones of sustainable forestry. The sawmill industry knows that its future is linked to the protection and expansion of its forests.

This, in combination with strong, effective laws, ensures that all Swedish timber comes from sustainably managed forests. Every harvested tree is replaced by at least two planted seedlings.

2



1 Sweden can also provide specially ordered grades of pine, and timber with special dimensions.

2 A spruce forest in Sweden.

## FEATURE

In less than 100 years, Sweden's forest assets have doubled. As the felling rate is less than the growth rate, the volume of forest continues to increase. As well as legislation requiring nature conservation and replanting, there are also voluntary international forest certification systems.

There are two main schemes in Sweden – FSC (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forest Certification). In 2017, the FSC had 12 million hectares of certified forest land and the PEFC had 16 million hectares of certified forest land.

### Quality grades

Swedish sawn timber consists mainly of two conifer species: pine (*Pinus sylvestris*) and spruce (*Picea abies*). Swedish sawn timber is of a high quality and has a medium to coarse texture with uniform and straight grain.

Swedish sawmills produce a wide selection of different qualities of sawn and planed pine and spruce; they can also provide specially ordered grades of timber, and timber with special dimensions.

Nearly all sawn timber from Sweden is kiln-dried: 50% is dried in compartment kilns and 50% in progressive kilns. The target moisture content is typically 16% for planed timber and 18% for sawn timber.

For joinery and mouldings, the target moisture content is 12%, and for timber in furniture it is 8%. Dried timber has increased dimension stability and is ready to use in the right application.

### Common uses

The Swedish sawmill industry can deliver wooden windows, doors, panels and floorboards in many different styles and dimensions, to suit all architectural styles. Thanks to its high quality, Swedish pine is a material that is very well suited for furniture, as it is easy to work with in the production process.

The surface of Swedish pine and spruce also offers endless aesthetic possibilities. Pressure-treated wood for the outdoors is another use for Swedish pine, finding uses in construction, landscaping, marine environments, railways and garden products.

Glulam (glue-laminated timber) opens up many architectural opportunities. In relation to its weight, glulam is one of the strongest construction materials available. Sweden already has a long tradition of building one and two-storey buildings in wood.

Wood is a light material that can carry heavy weights and is therefore suitable for a high degree of prefabrication. The interest in timber construction for multi-storey buildings is increasing worldwide due to its efficiency and climate friendliness. ([www.swedishwood.com](http://www.swedishwood.com))

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1

## Valinge raises DIY bar several notches

Its patented Threespine assembly technology helps buyers assemble furniture without tools, screws, glues or even fasteners

Japanese furniture retailer Nitori, one of the top furniture retailers in the world, launched a new range of products featuring Threespine click furniture technology from Valinge. With this implementation, it addresses changing market needs as well as the challenges with conventional flat-pack furniture.

One of the company's main goals is to provide products that make consumers' lives more convenient and comfortable. It currently organises approximately three million global deliveries per year through its more than 540 stores worldwide.

Nitori provides ready-to-assemble (RTA)

furniture: products delivered as flat packages and later assembled by the end-consumer. The global RTA furniture segment continues to show strong growth, partly because of its suitability for e-commerce, and the need for fast, easy and reliable assembly methods will become increasingly important.

### Game changer

Valinge Innovation is a research and development and intellectual property company (with more than 2,100 patents) in the flooring and furniture industries that developed the Threespine furniture assembly technology. ▶

1 *Because the locking function resides in the tongue, the technology is suitable for all material that can be machined to a profile.*

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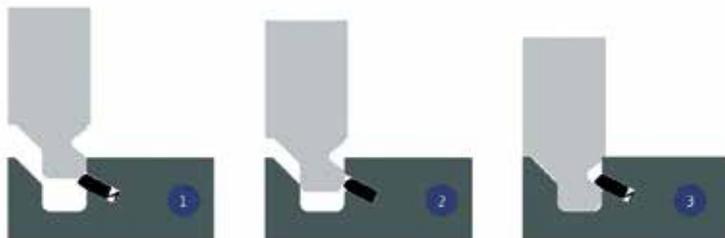
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**2**

**2** *The locking tongues are inserted in panels during production, making it easier for anyone to assemble furniture, or to dismantle it.*

Founded in 1993, the company pioneered the concept of glue-less “click” flooring and changed the way people install and use flooring and the worldwide patented technology introduced a fast and easy way of installing floorboards mechanically, without using glue.

Threespine is based on Valinge’s 5G fold-down technology, which has been used worldwide in the production of more than 1.4 billion square metres of flooring. Today, the technology base covers all fields related to floating flooring, but also to other applications such as furniture and surfaces.

All R&D activities take place at its facility in Viken (Sweden), which is considered to be the world’s most advanced R&D centre related to laminates, wood and wood-powder based flooring technology.

**Threespine assembly**

The technology empowers the user with the ability to assemble furniture in seconds without using tools, screws or fasteners. “When I first came across Threespine I was completely blown away,” said Mr Noriyasu Yamamoto, manager of Nitori Product Development Laboratory.

The key feature is a flexible plastic locking tongue that automatically locks boards or panels when they are pushed together. When a panel is pushed into position, the tongue is forced into the tongue groove. As the panel reaches its final position, the tongue snaps out into a wedge groove and locks the panels.

“The tongue strength, in combination with the long connection surface, achieves an extremely stable locking that in turn makes the furniture very robust,” said Mr Hans Brannstrom, director of furniture technology at Valinge.



The locking tongues are inserted in panels during production, making it easier for anyone to assembly furniture. The technology also enables furniture to be dismantled by using a strip that pushes the tongue back into the groove, unlocking the panels.

With Threespine, gluing or other assembly methods are no longer needed to cover holes for fasteners, screws and plugs. The new technology allows a clean design for furniture that can be assembled and dismantled many times.

While traditional construction results in point loads, Threespine spreads the load along the connection surface. As a result, the strength of the joint is less dependent on the material dimensions and properties and that opens new design opportunities, especially using thin panels.

Because the locking function resides in the tongue, the technology is suitable for all material that can be machined to a profile, such as particleboard, medium- or high-density fibreboard, plywood, high-pressure laminates, plastic and more. The technology allows these materials to be combined in ways that weren’t possible before.

Threespine can quickly move into production because of the technology’s compatibility with existing machinery, such as CNC machines, double-sided edge banding machines and profiling machines.

“Threespine provides an attractive alternative for RTA manufacturers looking to offer superior products,” Hans said. “It also enables manufacturers of factory-assembled furniture to switch to RTA to reduce logistics costs and lower their environmental impact without any negative impact on the design and quality of their products.”

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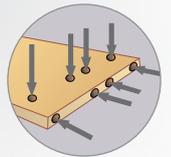
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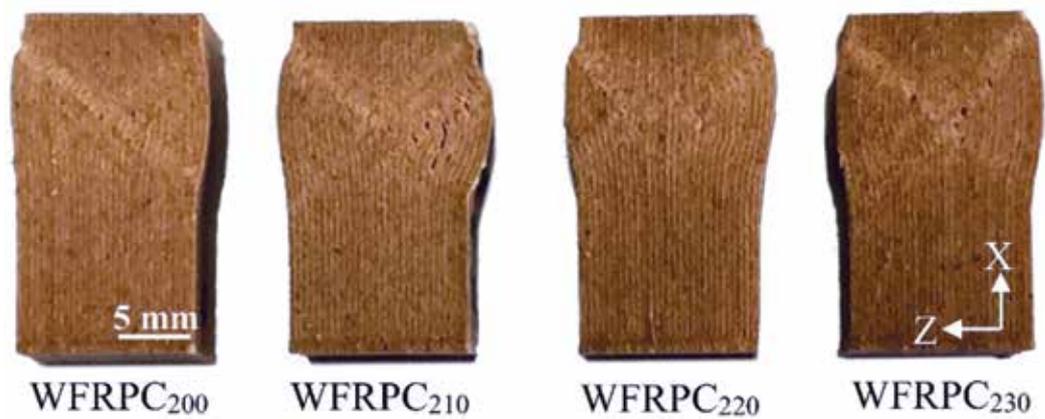
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## Teijin develops advanced fibre-reinforced wood

A growing demand for safer architectural construction is sharpening the focus on lightweight, highly earthquake-proof wooden structures. Wood is valued as a structural material offering a warm texture and design flexibility.

It also helps achieve sustainable development goals (SDGs) by absorbing CO<sub>2</sub> and thereby contributing to the mitigation of global warming.

Teijin, a technology-driven global group offering advanced solutions in the areas of sustainable transportation, information and electronics, safety and protection, environment, energy and health care, has developed technology for advanced fibre-reinforced wood (AFRW).

This is a structural timber product comprising a number of layers of dimensioned timber and high-performance fibres bonded together with structural adhesives for use in medium- and low-rise wooden buildings.

### AFRW building

Teijin is currently constructing the world's first building made of AFRW at Teijin's Tokyo Research Centre in Hino City. Construction of the building is being carried out with technical support provided by construction firm Maeda Corporation and the Structural Engineering Laboratory of Kochi University.

On completion, Teijin and Maeda will monitor adhesive stability and the vibration durability of AFRW for the next 7 years.

Teijin also aims to realise an open and comfortable space by avoiding the use of

columns to maximise the inflow of natural light and expects the new AFRW technology and materials to be deployed in general construction by the year 2020.

Carbon fibre reinforced wood (CFRW) – a laminated timber that includes layers of highly stiff, thin-walled carbon fibre – achieves twice the flexural stiffness of conventional laminated timber. CFRW offers enhanced durability and design qualities for use as structural beams.

The targeted development of AFRW, a more advanced material, is expected to extend applications to medium-rise buildings.

### Composite materials

High-performance composite materials that offer new value are one of the strategic product fields in Teijin's transformation and growth strategies medium-term business plan that the company announced recently.

Development of AFRW as an innovative, high-performance material with potential for manufacture in emerging markets is recognized as an official project under the Next Generation Material Cluster in Shikoku Region, an initiative of the Shikoku Bureau of Economy, Trade & Industry.

Going forward, Teijin aims to contribute to the realisation of safer and more comfortable wooden buildings as well as the development of sustainable architecture using timber as sustainable resources that absorb carbon dioxide. The initiatives form part of Teijin's long-term vision to be an enterprise that supports the society of the future.

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1

## The French toast-of-the-town!

In a sleepy corner of Mysuru, French master craftsman **Monsieur Bram Rouws** is shaping his dream factory and design studio for custom-made hardwood furniture, and seeking to leave a legacy of excellence in woodworking education and training. Roy Thomas tells you how...

1 *French master craftsman Bram Rouws has studied woodworking for 12 years and learnt from the best in Belgium, France, Ireland, Romania and the US.*

As one enters the rather nondescript shed that houses Bram Woodcrafting Studio (BWS) on the outskirts of Mysuru, 160 km west of Bengaluru, you cannot help but wonder whether there is a mismatch of sorts between the building and the rather grandiose sounding name.

It is only when you experience, first-hand, the palpable energy and *joie de vivre* (joy of living) that flourishes within the confines of the industrial premises that you get an inkling of what the studio is all about.

Bram, the ebullient Frenchman and promoter of the enterprise, is a highly skilled carpenter by profession who lives and breathes wood – and BWS is an *atelier* in every sense of the word.

It is not surprising that the first question people usually pose to Bram is to enquire how he ended up in Mysuru! He comes from a family of bakers – his father used to run a *patisserie* in Limoges, Central France.

But the restless young man, who had initially decided to open a *patisserie*, decided to follow his heart and take up carpentry. Starting as an apprentice in the Guild (see box) at the age of 18, the itinerant Bram travelled as a Journeyman in France and abroad. He worked for over 12 years in various cities in Romania, Belgium, Ireland, the US and eventually India.



## India calling

The year 2011 found Bram, who was still an apprentice in the Guild, join as a volunteer and work as a workshop manager with the Kolkata-based non-government organisation, Terra Indica.

It is a community-driven working space, where all inventors and innovators are allowed to get their hands on the right set of equipment to bring their ideas to life – and to teach carpentry to street children.

Bram was totally enamoured by the experience in the city. By 2014 he was an affiliate in the Guild when he returned to Kolkata to work as a production supervisor and furniture designer with Terra Indica.

If there is a Frenchman around, could *amour* be too far behind? It was his love interest – an Assamese girl, who he had met during his initial stint in Kolkata – and the urge to settle down that convinced him to go ahead with his India plans.

“Having worked in over 15 locations, I reached a point in my life where I increasingly felt the need to settle down and prove to my family – and more to myself – that I was not a rolling stone!” Bram says.

The idea was to open his business in Kolkata, but the reality of the business environment prevalent in that city came home and Bram started looking at alternate locations. “While on training assignments at Makerspace, I had heard about Bengaluru being a great place to set up my woodworking business. I also interacted with architects and other businessmen and picked their brains for ideas and suggestions,” he recalls.

Visiting IndiaWood 2014 was really a defining moment for the young craftsman-turned-entrepreneur. He came in touch with the Mumbai-based Caple Industrial Solutions, which him identify and procure SCM and Festool machinery – among them a circular saw, band saw, planer thicknesser with a mortiser, a spindle moulder and Festool power tools.

Mr Arthur Denzlin, a Bengaluru-based metal fabricator, helped Bram set up a private limited partnership company in Mysuru. Arthur is the local partner, as stipulated by the investment rules for foreigners. Bram poured all his hard-earned savings into building BWS as it stands today.

## Bram's USP

While Bram has nothing against the mass manufacture of furniture he believes “furniture that has very little human involvement has no soul”. He prefers designing and manufacturing custom-made, superior quality hardwood furniture and unique spaces to help clients transform ideas into wooden masterpieces.

With his outstanding professional experience of designing tailor-made furniture in different artisanal environments and his specialisation as a designer and trainer in carpentry, he and his team are able to offer ornamental, contemporary designs – as well as restoration of antique furniture.

While setting up the factory for both commercial production and training Bram took a conscious decision to work in the luxury sector. “If I started slowly I would never be able to generate enough income. Only in the luxury sector will I be able to provide the scale to make my business sustainable,” he notes.

Working in sustainably certified Ash, Beech and Oak, Bram and his team of a Production Manager, Mr Nzanthung Kikon from Nagaland, and a couple of native machine operators, have put together their first collection of theme furniture, which they named ‘Ratio’.

## ‘Ratio’ collection

Ratio draws from the design principles of the glorious Greco-Roman period of architectural elements into wood crafting. “We don’t believe in measurement,” explains Bram, “Only in ratios that respect the line.” The collection has masterpieces that serve as samples of the kind of furniture design work that the studio is capable of. ▶





2

2 Samples from the Corinthian, Doric, Ergo and Ionic designs that have sold well in India.

3 'The Wall' from the Ratio Collection. Bram says he doesn't believe in measurement, only in ratios that respect the line.

The response from the industry has been very encouraging, with enquiries pouring in from architects, furniture manufacturers, designers and connoisseurs from Mumbai, Bangalore and Kolkata. Recently BWS sold its 'Ratio' collection to one of its furniture manufacturing customers with design (intellectual property) rights.

The 'Ratio' collection will soon be available at TWM Mallet Pvt. Ltd. in Bengaluru ([www.themallet.in](http://www.themallet.in)).

Among BWS' customers and collaborators are architects, designers, and entrepreneurs. They include Bengaluru-based architects and designers, among them Mr Jayanth Gopal, Mr Geeth Gopinath, Ms Annabel Viegas Demello, Mr Nataraj Kalyan, Mr Rueben Jacob, Mr Karl Zehnder, the Mysuru-based master craftsman, Mr Bhanuprakash, and Mr Tony Kordolia from Goa.

**Founding principles**

The company is built on three pillars that define what it is and the vision and goals that it has set for itself. The team strongly believes and practices sustainable development. A permanent commitment to work with a maximum of local wood, a sustainable selection, certified wood and non-toxic products are part of the team's values.

During the whole manufacturing process, they are concerned about recycling the products they use. The team chooses to make maximum use of timber from sustainable production and fair trade practices.

BWS offers complete transparency and traceability of its creations. Its customers can, at any time, follow the process of their order, starting from the first sketch, the manufacturing, the finishing and finally the installation.

—(Pictures by Orka Photography and KA-03 Productions).

3



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Consultancy in furniture design, manufacturing and training in woodworking skills are given equal importance. “Even as we create, we are all conscious that we are still learning,” explains Bram. Fair remuneration and continuous training of company employees are part of the core values of the enterprise.

Practising what it preaches, Bram’s studio is an interesting opportunity for students of design, woodworking artisans and amateur enthusiasts. Even in the course of his structured workshops, students have free access to communication and shared knowledge in a co-working space, aptly named ‘Dimension’.

Among the stocks of sawn wood, array of machines and rows of tools, a group of professionally trained and dynamic team from BWS helps students and customers alike to realise their individual projects and dreams.

#### What next?

Bram hopes to break even in this financial year. Over the next 5 years he plans to scale up operations by installing machinery that include 3- and 5-axes CNC machines, a hot press, lathes, a bench press and a wide belt sanding machine manned by a total staff strength of 50.

Ever the Guild member and Journeyman, Bram wants to focus on teaching and training with apprenticeships and internships for school and university students – training in wood engineering, furniture design, engineering and joints, value addition, prototyping, manufacturing and finishing.

The Frenchman isn’t shy of becoming a part of a network of institutes across the country that are authorised to provide Skill India certification.

Then there is also the consultancy channel, to help woodworking units choose machinery and set up production lines, their installation, maintenance, repair and factory safety, as well as training machine operators and artisans. Bram finds the adoption of CNC technology in workshops as a move in the right direction.

With such a commendable mix of business plans that work in tandem with altruistic and social-uplift objectives, the aims of the company could serve as a model for other similar ventures. To tread the difficult path is truly an example of courage and perseverance – and Bram is, indeed, a fine example of that indomitable spirit of a human being. ▶





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## Carpenter's Guild



Becoming a carpenter in France (as in many parts of Europe) is a very structured process that revolves around the Guild, an organisation that dates back to the 12th Century. Today, the Guild maintains the principle of an initiatory society consisting exclusively of its members.

The Guild was recognised by UNESCO in 2010 and included in the Representative List of the Intangible Cultural Heritage of Humanity. France also has conferred the society with the 'Arc du Republic' recognition.

The French *Compagnonnage* system is a unique way of conveying knowledge and know-how linked to the trades that work with stone, wood, metal, leather, textiles and food. Its originality lies in its synthesis of varied methods and processes of transmitting knowledge: national and international educational travel (known as the 'Tour de France'), initiation rituals, school-based teaching, customary learning and technical apprenticeship.

Those aged 16 years or more who wish to learn and/or develop their skills in a given profession can apply to join a *Compagnonnage*. Training lasts on average 5 years, during which apprentices regularly move from town to town, both in France and internationally, to discover knowledge and ways of passing them on.

To be eligible to transmit this knowledge the apprentice must produce a 'masterwork', examined and assessed by the *compagnons*. The system is popularly perceived as the last movement to practice and teach certain ancient craft techniques, to deliver true excellence in craft training, to closely integrate the development of the person and the training of the worker, and to perform trade initiation rites.

The society is based on strictly regimented communal life with professional strictness and high moral ethics and the entire experience is known as the Tour de France.



The strong team at Bram's Studio (T-B): Anish Uchil (senior designer and production manager), Kalu Mondal (carpenter), Sreeroopa V. Channagiri (Director) and Nzan Kikon (workshop manager).

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# Of dyes, resins and 'French polish'

1

This is the second in a three-part series on wood coating and painting being published by *WoodNews*. To read the first part, check out the Sept-Oct 2018 issue of the magazine.

**By Dipak Chaudhari**

Staining is the process whereby wood surfaces can be made more valuable because their appearance is enhanced, and to bring definition to the wood grain.

All base stains, if used separately, are applied before the filler by spray or a pad and careful wiping helps to level out unequal absorption by the softer parts of the sapwood.

The main groups of base stains are solvent-based and water-based dye stains, gel stains and chemical stains. Dyes stains are those that actually dye/colour the fibres of wood. Stains such as aniline dye allow more “depth” to a finish and are often used for fine furniture. They are, however, photo-sensitive and fade with exposure to natural or artificial light.

Non-grain raising (NGR) dyes provide depth and clarity, have resistance to ultra-violet (UV) light and are, therefore, much more stable (lightfast) than aniline dyes. NGR stains are available in alcohol and acetone bases.

Dye stains are made from six base colours,

and an infinite array of colours can be produced by mixing these. Adding solvent can reduce depth and intensity. Examples are Walnut, Rosewood, Oak Yellow, Red brown, Black, Green, Blue, Wenge, etc.

1 Chemical stains are derived from potassium permanganate, potassium dichromate, ammonia, lye, copper sulphates, ferrous sulphates and nitric acids.

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• Matt-10	10%
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**Highlights of dye stains:**

- No binder required as dye stains soaked by wood surface
- Water and solvent soluble, impart brighter colour
- Dyes are transparent colourants
- Less resistance to fading due to light
- Colour matching is easy.

2 *Dye stains are made from six base colours, and an infinite array of colours can be produced by mixing these.*

Pigment-based stains deposit pigments between the fibres and into the pores of wood. They are stable and are most often recommended for architectural applications. Pigment stains are available in liquid or gel forms.

Generally the quality of stain application is judged by stability of the colour and uniformity of appearance. Inorganic pigments are derived from finely ground natural earth powder. They are dull in colour, have a dirty tone and are opaque, but are resistant to fading in sunlight.

Organic pigments are bright in colour, are manufactured by chemical reaction, can be opaque or transparent, but are less resistant to sunlight. Pigment stains require a binder and do not penetrate into wood. Pigment stains can lodge in pores, scratches and defects.

Chemical stains are derived from potassium permanganate, potassium dichromate, ammonia, lye, copper sulphates, ferrous sulphates and nitric acids. They bring about changes in the colour of wood by chemical reactions. However, it is difficult to control the intensity and depth of colours. The chemicals are difficult to use and often cause skin burn.

**Exterior stains**

These stains are used primarily on wood siding, decks and outdoor structures and furniture. They are available in latex and oil-based formulae. Oil-based semi-transparent stains offer the best protection of wood fully exposed to weather.

They can also be used on new or weathered wood, or wood previously finished with other penetrating finishes, without extensive surface preparation.

If a solid colour is desired, latex opaque stains are preferable over oil-based opaque stains, since they are more flexible, have better colour retention, and are less prone to mildew.

However, extensive surface preparation is required for proper adhesion, and latex stains in general should not be used on structures exposed to direct sunlight.

A clear or opaque wood coating, including clear lacquer sanding sealers, formulated with cellulosic or synthetic resins, if allowed to dry by evaporation, provide a solid, protective film.

Since this is intended as the final coat – in glossy or matt – it must have an excellent appearance and required aesthetics.

**Top coats**

There are many ways in which top coats can be used on wood-based furniture. Shellac is one of the few natural resins in use today, which is mixed with denatured spirit to form “French polish” or “Lacky”.

Shellac is not the best finish for tabletops, chairs or kitchen cabinets due to high wear of these items. But its big advantage lies in the fact that it dries very fast, making it unlikely to collect dust. It requires thinning with denatured alcohol before it can be applied with a brush or cotton rags.

Multiple coats of French polish give excellent look to furniture, but it is less durable and poor in water resistance, calling for regular maintenance of furniture.

For natural protection, oils and waxes were widely used. Their primary advantage is ease of direct application to wood and excellent finishing after buffing. Linseed and Tung oils, along with bees wax, are still preferred by some European manufacturers for special work pieces.

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However, oil finishes cannot be built up to a thick coat like polyurethane or varnish. They offer less protection against wear and tear, heat and humidity. Oil coats dry slower, taking more time for recoating and increasing the chances of dust deposition on the wood surface.

### Nitro-cellulose lacquers

Nitro-cellulose (NC) is a non-convertible polymer-based resin which forms fast-drying, hard, water- and heat-resistant and durable films. The film strength depends on the molecular weight of NC grade used. Two grades of NC are commonly used for lacquers: the 1/2-second NC and 30-40-second NC.

NC-based coatings are cured by evaporation of thinner. Thinner plays an important role in film formation of these coatings. NC is widely used in wood coatings as filler, sanding sealers and topcoat, applied by cotton rags, brushes or sprayed.

The main problem of NC is blushing – where the film turns milky if there is high moisture content. It is not soluble in solvents like acetates and ketones, but is compatible with resins such as short oil alkyds and ester gums. NC films are tough, but adhesion on smooth surfaces is poor.

It is also highly inflammable, to the extent of posing an explosion hazard, and must be stored away from electrical sparks. The use of NC has reduced due to development of synthetic resins like acrylics.

### Cold curing

An acid cure (or cold cure) system is a special type of coating. It cures by the cross-linking of alkyd and amino resins with acid as a catalyst (hardener) to initiate the reaction. The high amount of cross-linking between the molecules is what makes acid cure system so durable.

The combination of toughness – its hardness and flexibility – and chemical resistance makes it ideal for kitchen and bath cabinets, office and institutional furniture, and other interior wood applications requiring durability.

When adding the acid to a base coating, it is very important to measure the acidic hardener correctly. Too little hardener will slow the curing rate and leave the coating system soft and less resistant to chemicals. Too much hardener will make it too brittle to withstand the expansion and contraction of wood.

But there is a rider: the acid cure system is susceptible to wrinkling of the finish. This usually occurs with the application and curing of the second coat of acid finish over an uncured acid cure base finish.

– *The writer is a wood coating and finishing expert and consultant based in Pune. He can be contacted at woodfinishingconsultant@gmail.com.*

**To be continued...**

3 The quality of stain application is judged by stability of the colour and uniformity of appearance.

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# Biesse, IWST launch advanced woodworking course

Biesse India celebrated its partnership with the Institute of Wood Science & Technology (IWST), Bengaluru, an institution that is under the Indian Council of Forestry Research and Education of the Union Ministry of Environment, Forest and Climate Change, in September 2018.

Ms Stefania Costanza, Consul General of Italy; Mr Amar Joshi, Deputy Secretary General of IICCI; and Mr Surendra Kumar, Director of IWST; together with Biesse India team represented by Mr Sayeed Ahmed (CEO), Mr Stefano Bottene (Sales & Marketing Director) and Mr Gianluca Dolciotti (Director), were some of the guests that took part in the celebration.

This collaboration, which can be traced back to 2009, has now culminated in the establishment of a Diploma course in advanced woodworking. The course will be conducted in the Advanced Woodworking Training Centre (AWTC) on the IWST campus.

The first semester of this 1-year diploma course commenced in July this year with a batch of 16 students, including some international students. This comprehensive programme has been designed to give relevant training to future operators, technicians and supervisors and equip them with skill sets, in line with industry requirements.

It also encourages participants to become successful entrepreneurs. The course is affiliated with the Furniture & Fittings Skill Council (FFSC) under the National Skill Development Corporation.

Well-known brands of the woodworking industry in India such as Pidilite (glues), Leitz (tooling), Rehau (edges) and others have

## Course content

### Semester No.1

- Module 1: Foundation: Materials
- Module 2: Foundation: Engineering
- Module 3: Processing using machines
- Module 4: Allied processes
- Module 5: Systems

### Semester No.2

- Module 6: Safety
- Module 7: Maintenance
- Module 8: Assembly & Joinery
- Module 9: Advanced Topics
- Module 10: Project Work
  - 10.1 Cabinet making
  - 10.2 Industrial attachment

participated in this programme by organising guest/expert lectures/workshops and by contributing their product samples.

Biesse, which set up operations in India in 2008, realised that the lack of skilled manpower could impede the huge potential for the development of woodworking industry in the country. In line with the Group's vision, and as part of its corporate social responsibility (CSR), it decided to promote vocational training and technical education in woodworking technologies and processes.

Biesse equipped AWTC with a Rover A 3.30 Pods & Rails CNC machine in 2009, on which more than 1,000 people have undergone short-term training.

In 2018, it equipped AWTC with Active Edge 60 semi-automatic edge banding machine and the Jade 240 automatic through-feed edge banding machine and the latest Rover K FT 1224 CNC machining centre with bSolid.

Biesse has signed a memorandum with IWST for a period of 5 years under which it affirms its commitment to provide the infrastructure – machines, systems, software, rejuvenating and maintain existing equipment and finance to sustain the project.

### Advanced diploma

The 1-year course is offered in two semesters with intake in the month of June and is conducted at the AWTC in Malleshwaram, Bengaluru. A maximum of 30 candidates are allowed in each batch.

AWTC also offers three short-term courses of 2-4 weeks' duration, to impart basic woodworking skills to participants.

Candidates who are 18 years of age or older, and have passed the pre-university course or Senior Secondary School Certificate Examination (Class XII) or equivalent from a recognised educational board are eligible to apply.

The course, which has a 60% practical & 40% theory and classwork content, begins with a solid foundation in materials and engineering fundamentals. The first semester focuses on manufacturing aspects with emphasis on conventional woodworking, machines, systems and finishing processes.

The second semester focuses on joinery and assembly aspects with hands-on training exclusively on bSolid 3D CAD-CAM software and application software bNest and bCabinet, culminating with exhaustive project work or industrial attachment.



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# 'Finnish coniferous wood has huge uses in India market'



*Mr Yogesh Jain,  
Director, Sitaram  
Ferozilal Jain.*

To respond to the business potential of Indian markets, 'Wood from Finland', a national promotion programme for Finnish sawn timber, launched its Indian operations at IndiaWood 2018.

This is being followed by seminars in Delhi and Mumbai (26 & 28 November respectively).

To get a local viewpoint, we contacted Mr. Yogesh Jain, Director of the Indian timber trade company, Sitaram Ferozilal Jain. Yogesh shares his insights into the potential of Finnish coniferous wood for the Indian market.

**How do you see the potential of Finnish coniferous wood for the Indian market?**

India is mainly a hardwood market and has

limited knowledge of coniferous woods. But with shrinking availability of hardwoods, Indian buyers are now forced to look for coniferous woods. As Finnish coniferous wood is not so popular in India, it has a big potential.

**What end-uses do you think would be the most suitable for Finnish coniferous wood?**

Finnish coniferous wood is suitable for doors, windows, door jams and furniture components. This is because Finnish wood is dense; it is not subject to warping; it has few knots with tight and not so distinct coloured knots.

**What would be the benefits of Finnish coniferous wood?**

Other available coniferous woods are from New Zealand and Canada. These are mainly being used for packaging. As Southern Yellow Pine is very resinous, it has limitations.

Compared to German Pine and Spruce, Finnish wood is denser with fewer knots. Thus, Finnish wood will have better acceptability for higher end uses and even for structural purposes.

**Do you think that the legal, certified origin of Finnish wood is important to the Indian market?**

India is increasingly sensitive towards the environment and rushing to have 'green' buildings with mandatory requirements of green certifications.

*For more information on Finnish wood or its suitability to Indian end-use, write to Mr. Dharmesh Sharan, Senior Advisor at Business Finland (dharmesh.sharan@businessfinland.fi), or call +91-9899101589.*











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# A trade fair of superlatives



DelhiWood 2019 (13-16 March) highlights will flow from more exhibitors, more visitors and more opportunities

It is four months before the start of DelhiWood (13-16 March, 2019), one of Asia's leading trade fairs for furniture production technologies, woodworking machinery, tools, fittings, accessories, raw materials and products.

The exhibition organiser, NurnbergMesse India, has already announced a new record of numbers – more than 600 exhibitors from 35 countries will be there, almost 25% more than in the previous edition in 2017. What is more, the 30,000 visitor mark is ready to be surpassed.

## Highlights

- New record of over 600 exhibitors from 35 countries
- Country pavilion debut by Sweden, Japan and Russia
- Expanded country pavilions from Canada, China, France, Germany, Italy, Malaysia, Turkey, Taiwan and USA.

On account of the rise in demand, DelhiWood 2019 has expanded exhibition space to 40,000 square metres, which is 40% more than in 2017. The venue remains the same – the India Expo Centre and Mart in Greater Noida.

“Our aim is to offer a platform to as many exhibitors as possible. With DelhiWood 2019, we continue to surpass ourselves,” said Ms Sonia Prashar, Chairperson of the Board and Managing Director, NurnbergMesse India.

## Positive synergy

The positive synergy, similar operational approach and elements of common culture have led to a smooth transition of the brand from PDA Trade Fairs Pvt to NurnbergMesse India.

The 2019 edition of DelhiWood will be organised by NurnbergMesse India, in co-operation with PDA Trade Fairs, and with support from Eumabois, the umbrella association of European woodworking machinery manufacturing organisations.

The 6th edition of DELHIWOOD in 2019 will span over six halls and a huge outdoor display area. “Halls will be demarcated into machinery and non-machinery segments to enhance the visitor footprint throughout the show,” said Mr SivaKumar Venugopal, Group Director and Member of the Management Board, NurnbergMesse India.

“Besides, aisles and corners will present a rich and varied panorama of country pavilions, enabling exhibitors to achieve even greater visibility in favour of their distinctive national images,” he added. Country pavilions include those from Canada, China, France, Germany, Italy, Malaysia, Russia, Sweden, Turkey, Taiwan and the US.

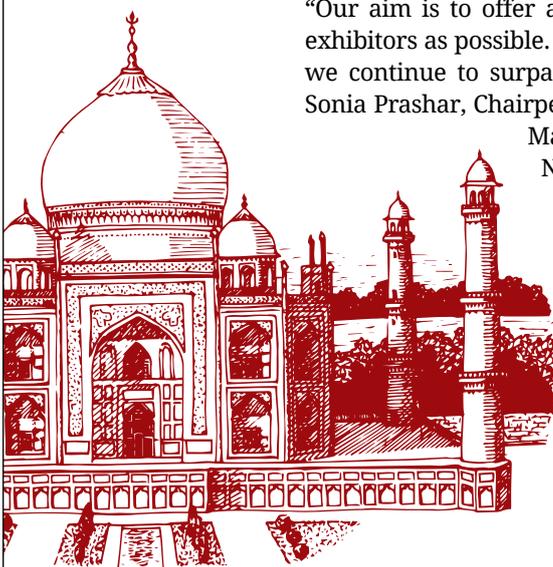
## Space booking

Already 80% of the exhibition space has been sold. Those interested in booking space may contact Mr Pradeep Kumar Gopal, Project Director, on +91-80-46748882, or email [pradeepkumar.gopal@nm-india.com](mailto:pradeepkumar.gopal@nm-india.com).

Visitors are requested to plan their travel and book accommodation as the organisers are expecting a record number of visitors for the fair. Pre-registrations are now open at [www.delhi-wood.com](http://www.delhi-wood.com).

DelhiWood has become the premier platform for woodworking solutions, machinery, materials and components to showcase their products, innovative technologies and production scenarios.

The event is specifically geared towards meeting the needs of furniture/ kitchen manufacturers, architects, interior designers, builders, carpenters, fitters, machinists, mechanics, machine tool maintenance specialists, traders and retailers.





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## China shows its mature colours at Shanghai twin fairs

This was a significant duo: one single enormous show structured into two different events in order to meet the needs of a continuously growing furniture manufacturing industry in Asia that keeps a keen eye on the most innovative solutions.

And if the expectations were that the operators would decide the success of this upgraded fair development, then the bet has definitely been won!

From 9-3 September this year – alongside the China International Furniture Fair (CIFF) in Shanghai – two pavilions of the National Exhibition and Convention Centre in Hongqiao hosted the first edition of the Shanghai International Furniture Machinery and Woodworking Machinery Fair.

CIFF Shanghai 2018 recorded a total number of 1,46,419 visitors from more than 200 countries, 37% more than in the previous year. Pavilions 7 and 8, housing the machinery



2

Alongside the 42nd edition of China International Furniture Fair, the Furniture Machinery and Woodworking Fair saw a record number of professional visitors from 200 countries

and operational installations, recorded 33,802 furniture manufacturers.

This “fair inside a fair” welcomed a total number of 395 exhibitors, of which 75 were from abroad. A full range of major international brands were represented, proposing advanced technologies to manufacturers who are increasingly coming to grips with the need for new and more powerful tools with which to produce quality items and reduce the utilisation of manpower.

### Mature suppliers

All the major international names were present – from Biesse to Homag, from SCM to Weinig, from Siempelkamp to Wenhoener – along with the most noteworthy Chinese manufacturers and operators such as Nanxing, Jinan Restar, Yalian, Foma Group, SWPM, LMT, Ruiwudi, Leke, Huajian, Yuantina, Lianrou, Hengkang, Fuyi and Zinquinli.

In Shanghai these Chinese companies once again demonstrated the enormous strides forward made in the last few years. Important patronage was provided by Eumabois, the federation of European associations of manufacturers of woodworking and furniture machinery and technologies.

Two topics emerged particularly strongly in Shanghai. On the one hand, the search for sophisticated machinery and installations, able to ensure quality in finishing and details, to support the affirmation of high quality “made in China” manufacturing.

1 *CIFF Shanghai 2018 recorded a total number of 1,46,419 visitors from more than 200 countries.*

2 *The first edition of the Shanghai International Furniture Machinery and Woodworking Machinery Fair hosted 395 exhibitors, of which 75 were from outside China.*

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On the other hand, in a labour market experiencing rising salary costs, it is essential to emphasise the definite leap in quality achieved by machinery produced in China, bridging the technological gap with more mature manufacturing systems.

**Best ever**

Organised jointly by the China Foreign Trade Guangzhou Exhibition General Corporation and Red Star Macalline, CIFF 2018 made it possible to achieve new quality levels. It gave international and Chinese operators new concepts of living and working – and new opportunities for acquiring information and doing business.

There were booths of the more than 1,300 companies attending CIFF, spread out over 4,00,000 square metres, helping industry professionals to draw fresh inspiration by visiting wonderful design exhibitions and by attending forums and conventions on the new trends in the Chinese and international furniture markets.

In particular this edition of CIFF highlighted

**3** *The incredible exhibition on Asian Design rediscovered the spirit of Oriental craftsmanship.*

**4** *More than a dozen top-notch Chinese machinery manufacturers and operators showed how the country has progressed towards 'Designed and manufactured in China'.*

**5** *A very high number of designers, as well as dealers and buyers, including hundreds from India, attended the twin trade shows.*

the extent to which product design, furnishing solution customisation and intelligent production methodologies are essential added values if a business wants to be competitive. CIFF Shanghai 2018 effectively helped changed the concept of 'Made in China' into 'Designed and Created in China', partly due to the contribution made by over 90 high-level Chinese brands attending the show for the first time.

The quality and inventiveness of the products, the care devoted to the presentations, and the architectural design of the stands themselves, as well as the contents of the organised events, were the valuable ingredients of a successful recipe that resulted in the attendance of an extremely high number of designers, as well as dealers and buyers.

**Dream show**

An improved functional and strategic subdivision between the various sectors represented home furniture, home decor and home textiles, office show and outdoor and leisure. There were product launches, seminars, competitions and innovative initiatives, including East Design Show, China Design Forum, China Interiors and Decoration Conference, and the Pinnacle Awards Asia Pacific.



The incredible exhibition of Asian design rediscovered the spirit of Oriental craftsmanship, making a symphony of shapes and materials.

CIFF has once again proven itself to be an essential event for those who wish to understand the Asian market, a great sourcing opportunity, and not-to-be-missed appointment that, year after year, manages to surprise its visitors.

The next show, CIFF Guangzhou, will be held in that city 18-21 and 28-31 March, 2019.



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# After name change, HiKoki has aggressive plans for India



**1** (L-R) Mr. Takeo Tamagawa, Senior Director of Marketing and Communications, Mr Tomoaki Moro, Managing Director of HiKoki India, and Mr Dattatraya Joshi, Executive Director, HiKoki India at a function in Bengaluru recently.

Hitachi Koki recently announced a change to its corporate name to Koki Holdings Co. Ltd. and will rebrand its full line of power tools as HiKoki. It is on the verge of launching a new technology, and plans to introduce do-it-yourself (DIY) and affordable cordless power tools.

The company's India arm has been operating since 1996 and is the largest and fastest growing subsidiary in Asia (after Japan). HiKoki India has registered a steady growth over the last 20 years and is aiming to scale up its dealer count from 600 to 1,000 by the year 2020.

During financial 2017-18, HiKoki India sold 3,60,000 tools and aims to sell 4,00,000 tools during FY 2018-19. Simultaneous to its rebranding efforts, the company is also launching new technology 'Multi Volt' tools, identifying a visible shift from corded to cordless tools among end users.

Some of its popular cordless power tools are: belt sanders, cutters, miter saws, chain and circular saws, die grinders, planers, routers, dust extractors, rotary hammers, screwdrivers and drills.

According to Mr. Dattatraya Joshi, Executive Director and Secretary, Hi-Koki India, "The power tools market is estimated at Rs 4,000 crore and is growing rapidly at 7%. It is projected to grow at a steady pace for the next 10 years."

Woodworking tools account for 20% of HiKoki India's revenues, mainly manufactured at its plant in Peenya (Bengaluru). It also boasts of leading customers in the automobile, construction and fabrication sectors; among them Maruti Suzuki, Tata Steel, Larsen & Toubro, Leyland and Alhstom.

"Backed by powerful government initiatives to boost the manufacturing sector – such as Make-in-India and Skill India – the country gives us a unique opportunity for growth, innovation and contribution when compared to other developed countries," Dattatraya said. HiKoki also aims to train 10 million tradesmen under the Skill India Mission by the year 2020.

HiKoki foresees growth opportunities shifting to Tier II and III cities and is looking to strengthen its base in this area to increase its market share. Apart from manufacturing more than 50% of domestic requirement by volume, it exports tools to Bangladesh, Sri Lanka and Nepal. It also exports select components to other HiKoki subsidiaries in Malaysia and Japan.

The parent company, Hitachi Koki, was established in 1948 in Japan and maintains its position as one of the world's leading power tool manufacturers. It has more than 70 subsidiary companies in all major countries, including India.

HiKoki India is the second-biggest player in the power tools business in India with 17% market share in the organized sector, because it offers innovative, high-performance and high-quality products and services that result in a high level customer satisfaction. It has its head office in Bengaluru, 13 branches, a distributor network and more than 100 authorised service centres.

# Swedish wood – a versatile, modern material



Swedish sawn timber consists mainly of softwood: spruce and pine. Thanks to its high quality, Swedish wood is used for furniture, floors, wall panels, mouldings, windows and doors, as well as for construction. All Swedish timber comes from sustainably managed forests, where every harvested tree is replaced by at least two planted seedlings. World-wide, Sweden is the third largest exporter of sawn timber.



Come and meet us at Delhi Wood 13th – 16th March 2019  
at India Expo Centre and Mart, Greater Noida, India



# SCM opens up a new era in drilling



The open-house event, 'Drilling is no longer boring', organised in the Technology Centre of the SCM headquarters of Rimini (18-20 October, Italy) was a resounding success, with hundreds of visitors from all over the world.

The event sought to present a preview of the new Morbidelli NC drilling machinery, showcase the excellent teamwork of the SCM designers, technicians and specialists who had accepted this new high-tech challenge.

SCM provided on the first day training for the sales network – a critical opportunity for building a close-knit, successful SCM team at an international level. On the other two days, the focus was on welcoming hundreds of customers from all over the world, in particular from Asia and South America.

The event was an opportunity to discover first-hand the new generation of the Morbidelli CX220 and CX210 machines, the world-leading compact CN drilling solutions, and the new Morbidelli UX200D, a more complete and flexible CN drilling solution.

These machines are the outcome of an effort to meet the growing needs for customised and integrated production by granting producers the possibility of satisfying any given customer's special requirements without giving up on the benefits of industrial production.

Every detail in these machines has been designed with meticulous care in order to allow all the required machining operations to be performed with high efficiency, top quality and advanced technology.

The new generation of CN drilling models CX220 and CX210 add some significant innovations to the compact and fast Morbidelli CX series, already an ideal solution for batch-one machining. The new compact drilling heads, with their new design, will help manufacturers achieve hitherto undreamt of high levels of performance and efficiency.

Other significant innovations were the new panel return systems with automatic unloading and the possibility of having new customised spindles for customised machining.

The SCM drilling revolution was in clear evidence in the new generation of Morbidelli UX machines, with their new exclusive functions offered in the entire series, and in the now-to-be-launched Morbidelli UX200D machine with its greater performance machining both small and large panels.

The highly versatile, Morbidelli UX200D can operate as a stand-alone machine or as an integrated part of a production line, with various types of work piece conveyors and loading and unloading systems.

A noteworthy feature in the Morbidelli UX200D is the new exclusive dowelling system with dual variable-axis broaches that can be adjusted according to the distance between holes. Among the features available in the entire series are the automatic tool change magazines for both the upper and lower spindles, used for simultaneous machining of opposite sides of panels, and the new Clamex spindles for customised joints.

SCM has more for the industry to discover in Rimini next year (Jan 31-Feb 02) with the new generation of CNC nesting machining centres.



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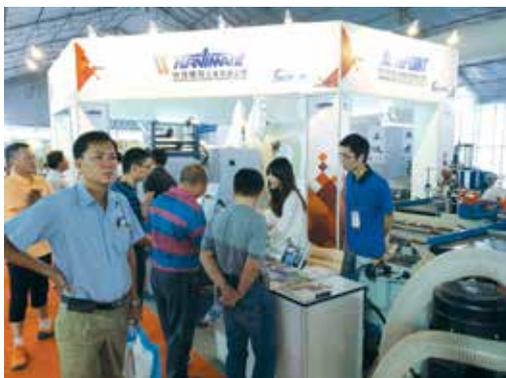
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# Wood Vietnam makes a difference for 4,200 visitors



In the context of a tense international trade climate, BIFA Wood Vietnam's popularity was evident and invigorating. The show this year (24-27 October) saw about 183 exhibitors and 740 booths across a massive hall size of 14,500 square metres.

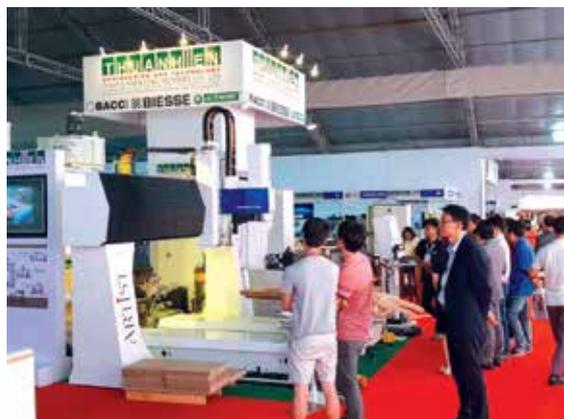
A total of 4,200 visitors partook of information on the latest technologies and products in the furniture manufacturing and woodworking sector.

The show was co-organised by Binh Duong Furniture Association (BIFA) and Pablo Publishing, publisher of the *Panels & Furniture* group of woodworking magazines.

The show was held in Binh Duong province, the heart of Vietnam's furniture production and woodworking cluster. About 60% of Vietnam's furniture and woodworking factories are located within 40km radius around Binh Duong – as well as Long An, Dong Nai Provinces and Ho Chi Minh City, the country's capital.

While Binh Duong is now the capital for wood processing and furniture production in Vietnam, it still retains much of its rustic nature and is developing fast. Many exhibitors had commended the show location, chosen specifically for its close proximity to the factories and for the convenience of factory managers.

Mr Ha Cong Tuan, Deputy Minister of Ministry of Agriculture and Rural Development said at the opening ceremony, "BIFA Wood Vietnam is a really important event, timely to advertise, promote trade and investment of the wood industry, not only in 2018 but also in the following years."



The fair was aimed at creating opportunities for enterprises to meet, exchange information and seek business cooperation. It also helped create vertical linkages in the industry – from suppliers of raw materials and accessories, machinery and technology providers, to manufacturers and traders.

According to statistics of General Department of Customs, in the first eight months of 2018, Vietnam's wood sector exported over US\$ 5.6 billion, of which Binh Duong is the leading province with import-export turnover accounting for more than 50% of the country's turnover.

The show also provided a healthy mix of international and Vietnamese exhibitors. Many were eager to enter the Vietnamese market given the changing winds in the global trade dynamics. Exhibitors from 16 countries participated: Australia, Belgium, Canada, China, Russia, France, Germany, Hong Kong, India, Italy, Malaysia, Serbia, Singapore, Taiwan, the US and Vietnam.

BIFA Wood Vietnam 2018 had also invited industry veterans and professionals well-known in the wood industry to be speakers in a series of seminars. Mr Michael Buckley, an important figure in the American hardwood industry, spoke about sustainable and legal timber.

The US National Hardwood Lumber Association held a grading class on the same day, presented by NHLA inspector, Mr Roman Matyushchenko. Mr Jean-François Guilbert, Managing Director of French Timber, also introduced French wood species, timber industry practices and grading.

The next edition of BIFA Wood Vietnam will be held in the year 2020.



# Sound design. American hardwoods.

American tulipwood acoustic panelling by Ben Percy uplifts and updates the performance hall at the Northern Beaches Colleges Senior Campus in Freshwater, Sydney. Architects and designers all over the world have embraced American hardwoods for the range of colours, grains and textures they offer, as well as for their consistency in grade, quality and supply and their sustainable credentials.

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# What's the kitchen of the future?

Increased adoption of 'open' kitchens, pressure on space, and variety in cooking methods are some challenges manufacturers and designers must face

1



**By Rajesh Ahuja**

Traditionally, kitchens have been private spaces where usually the women of the house prepared meals. Over the last few decades, however, kitchens have become social spaces where families spend time with each other and also entertain guests.

This has led to the concept of open kitchens, wherein the cooking space blends seamlessly into the living space, making it a talking point of any home. Manufacturers, architects and interior designers have to take into account these lifestyle changes, and due importance has to be given to the kitchen during space planning.

Not only should the kitchen be designed to be a space for cooking and storage, it must be conducive to socialising as well – and the look and feel has to complement the aesthetics of the rest of the house.

Increasing product awareness on account of travel abroad and exposure to various culinary styles from various countries has created a desire to experiment with different cooking styles and methods, apart from the food that is prepared on traditional gas stoves.

### New materials

This necessitates the use of a variety of cooking appliances that can combine functionality with space-saving and aesthetics. There is steam cooking for health freaks, traditional ovens for roasting and baking, microwaves and ovens for quick heating and certain types of cooking. People want to experiment with all the choices!

Most European kitchens use particleboard for the carcass. Since Indian kitchens use too much of water for cooking and washing, most

consumers and architects prefer plywood, which has higher water resistance than particle boards or MDF.

For counter-tops the widely accepted material in India remains granite, since it is easily cleanable, available in a wide range of colours and economical.

There are different shutter materials for kitchen cabinets like MDF, plywood, glass, acrylic, real wood, etc. Just like for carcass, plywood still remains a popular choice for base cabinets.

However, glass shutters are more frequently chosen for wall cabinets, as it is see-through for higher visibility, and reflects light, making the kitchen bright.

Another innovative material that is trending today is Neolith, which is being used for countertops as well as shutters. Developed in Spain and popular all over the world, it is low maintenance, scratch- and UV-resistant – but it does fall into the high-price category.

### Magic solutions

As living spaces get smaller, the storage functionality has become very creative. There ▶

1 *The Ceramica kitchen style is characterised by Neolith ceramic shutters on aluminium frames that impart ruggedness and durability.*

2 *Saviesa's Practica kitchens are marked by utilitarian design, open elements and handle-less wall cabinets.*





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is zero wastage as every inch is used. Corner units like diagonal deep corner drawers have become a big hit with their clever design to use the available space. There is a special type of storage for everything these days.

You name it and it is there – plate holders, lid holders, canister organisers, innovative dustbin units, space towers, and cling-film dispensers, among many.

Add to this the technology of the likes of soft-close and Servo-drive automatic opening and closing, and you're looking at the kitchen of the future.

There are different types of finishes like lacquer (PU painted), veneer, laminates in matt and gloss, glass and acrylic. Everybody

offers these; but the difference is in the colours and textures.

Making the right combination of different finishes is also important, and an expert in design knows how to make a great combination. For example a combination of acrylic and textured laminate could make an awesome kitchen, but you should know how to match them!

*The writer is Co-Founder and Managing Director of Saviesa Homes, and a veteran of the modular kitchen industry in India with 25 years' experience. He partnered with the pioneer, Mr Snehal Vasani of Kitchen Grace, and later turned Sleek Kitchens into a widely accepted and acclaimed brand in the country.*



### **Kitchen's where the moolah is!**

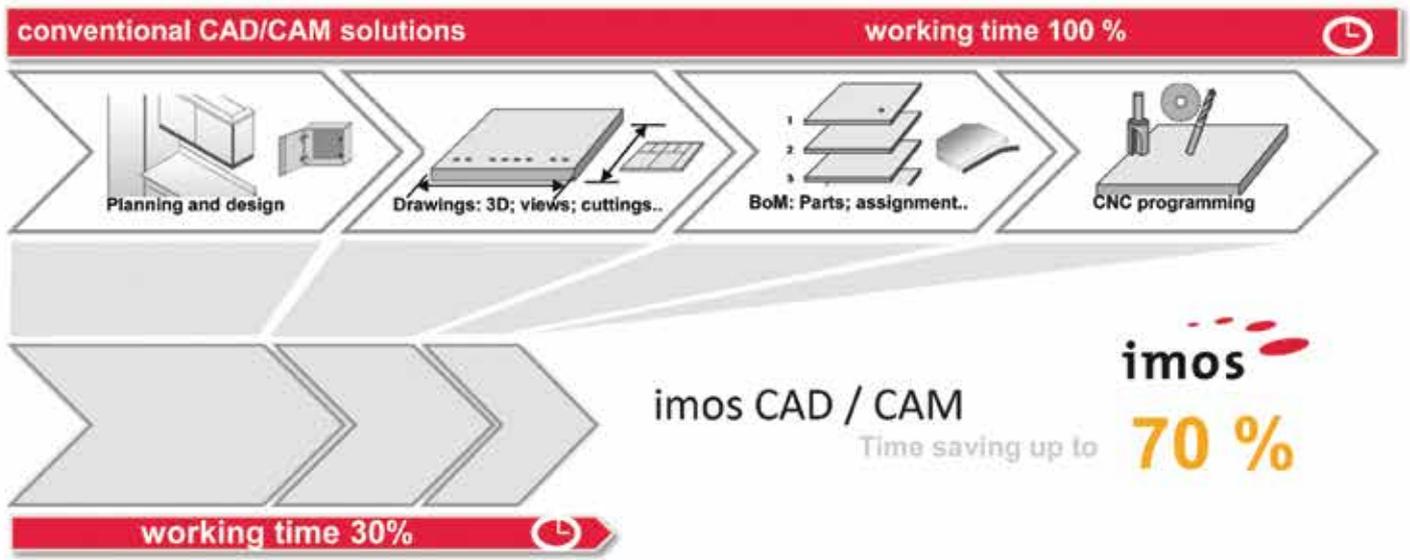
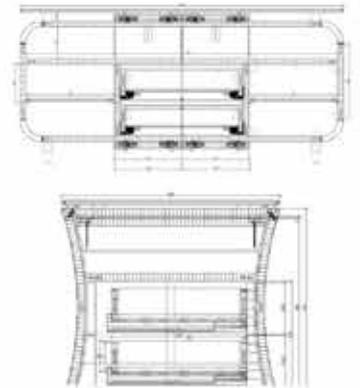
A kitchen renovation is a clear upgrade of choice with the potential to boost a home property's value by more than 12.5%, according to a recent pan-Canada survey of real estate experts. One need not reinvent the wheel to understand that this would hold true in India too.

In the survey, adding a swimming pool or wooden deck scored dangerously low on 'returns on investment' – far too many said such artifices deterred potential buyers because of the higher maintenance costs and hassles.

It would not be far off the mark that while exterior renovation is important, prospective buyers would set a premium for fresh and renovated interiors, since that is where the "home" is! It stands to reason because people spend a lot more time living indoors than they would on their lawns or in their balconies.

Renovated bathrooms, upgraded window systems, fresh interior and exterior painting can also boost the potential value of any residential property up for resale. However, if anyone you know is planning to renovate his/her kitchen and interiors with the intention to sell, they must use materials and colours that are popular; not too personalised.

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## Best of Europe, hand-crafted for India!

1

1 Imported from Germany, tailored to Indian requirements.

The Indian economy continues to boom and the construction industry – after a brief lull during demonetisation and the introduction of the Real Estate (Regulation and Development) Act – is once again on the uptick.

Several new Indian and foreign players have entered the fray in an attempt to ride the wave in the housing industry in general and modular kitchens and wardrobes in particular.

2 These one-of-a-kind hand-sculpted kitchen shutters have set new standards in customisation.

Kitchens are no longer seen as a functional part of the home. Today, they spell modern designs, top-of-the-line finishes, hi-tech

appliances, and are a miniature world in themselves and one that demands finesse, elegance and innovation.

Among the major players that have ambitious plans to feed into this need is the Bengaluru-based Wurfel Küche, makers of custom-built European modular kitchens and wardrobes, who strongly believe that kitchen is the heart of a home.

Its promoters, Mr Khanindra Barman, Mr Pankaj Bhatia and Mr Naveen NJ, initially started as importers and distributors for a kitchen brand from Europe. During that stint, they learnt that although the imported brands come from Europe along with high quality and high price, it involved a great deal hassle in service and responses.

On the other hand, most Indian brands kept their focus on pricing, compromising on quality. Sensing a niche market for kitchens that incorporated best practices from both these worlds, they set up Wurfel Küche in 2015.

“We imported all raw materials – from boards to screws – from Europe to meet the quality standards of imported kitchens and wardrobes. All technology, including the machinery, is imported from Germany to ensure that we achieve the best precision levels across the globe,” says Khanindra.

### European ideal

After bringing technology and raw materials from various parts of the world, they decided to follow European techniques in their execution as well, with all the departments being headed by professionals from Europe. ▶



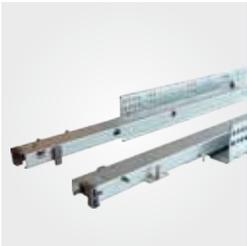
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3

3 More than 200 architects and interior designers got hands-on experience in Bengaluru recently to ascertain Wurfel's claims.

4 The building of an exclusive series of Wurfel products is in the pipeline, which one of its founders, Mr Khanindra Barman (right), believes would set benchmarks in the global kitchen industry.

"This not only helped us in setting up the European process right, but also encouraged our Indian team to grow positively and develop an attitude of not compromising on quality," Khanindra adds.

Based on the four pillars of quality, service, durability and value, the brand promises to provide its customers not just products, but a world-class modular kitchen experience, through superior quality standards in designing, manufacturing, installation, servicing and other comprehensive solutions.

This, coupled with an insatiable appetite for success, has already seen Wurfel open up 28 stores across India in just 3 years. Three stores are also coming up this year in Qatar, Oman and Sri Lanka. Today, it is one of the fastest growing modular kitchen and wardrobe brands in the country.

What's most surprising about Wurfel is its pricing flexibility with kitchens that start at

even Rs 2 lakh. This kind of pricing is possible in spite of imported raw materials and fittings, because it is assembled at a state-of-the-art assembly centre right here in India. This not only helps Wurfel avoid excise duty and keep the price down, but also allows for European style kitchens to be customised for Indian homes.

**'Your story'**

The company is currently working on acquiring patents with the aim of taking their kitchens to the global markets. The building of an exclusive series of Wurfel products is in the pipeline, which its founders believe would set benchmarks in the global kitchen industry.

Wurfel currently has 28 franchises across India – in Bengaluru, Mumbai, Hyderabad, Chennai, Coimbatore, Kochi, Thiruvananthapuram, Calicut, Mangaluru, Goa, Hubli, Surat, Vadodara, Gurugram, Srinagar, Patna, Vijaywada, Vishakapatnam, Mulund (Thane), Noida and Agra. It aims to reach over 100 showrooms in the next three years.

Taking customisation and innovation to the next level Wurfel Kuche launched its 'For your unique story' brand in Bengaluru recently, in the presence of some of the leading architects and interior designers of the country.

For the first time, the kitchen takes the role of a canvas. Made by hand, these one-of-a-kind hand sculpted kitchens set new standards in customisation and are crafted and inspired on the customer's life story. 'My Story' kitchens pay homage to art and artists and are an expression of the company's appetite for innovation and self-expression.



4

# For doors that can handle extreme conditions



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Fevicol SWR+ is a synthetic resin adhesive with very high D3 grade water-resistance conforming to EN 204/ 205, meeting European Standards. It can even offer D4 Grade water-resistance, when mixed with 5% hardener. With its high solid content and low viscosity, it offers higher coverage, thereby lowering unit costs. Further, its suitability for both flat lamination (Veneer/ Laminate-To-Plywood/ MDF/ PB) and wood-to-wood bonding, makes Fevicol SWR+ the ideal choice for wooden furniture, doors and modular furniture.





## Aristo offers an open-and-shut option

Aristo recognizes that a kitchen, with its central role, influence the entire home and perform more than just cooking functions. It has, subsequently, developed a set of products that serve customers who know the importance of what the kitchen brings to their lives.

Open kitchens have become a trend for new homes in India. On the positive side it integrates the kitchen with the rest of the home, which is very important for the homemaker. Unfortunately, however, Indian cooking is not conducive to these conditions.

The Aristo Train System helps families make the best of their open kitchens. This top-mounted sliding system without a bottom track can close off open kitchens only when required. The system tucks the doors in behind each other, leaving the open kitchen open under normal circumstances.

The Aristo Train System also creates a barrier to prevent the air-conditioning getting sucked out when the kitchen chimney or exhaust is running. It also helps in creating privacy when we have cooks and maids working in the open kitchen.

As homes get larger and the availability of packaged food increases, the requirement for larger kitchens with easy access to storage also goes up. The current available kitchen storage solutions can be complex, cumbersome to use, and expensive.

Aristo's simple floor-to-ceiling sliding door cupboards can be used to create a very large amount of storage within a small footprint. Aristo's sliding doors are famous for their ease of use and full open access with no wasted space.

Locks can also be installed and the sliding doors do not occupy valuable kitchen space while open. The reflectivity of Aristo's lacquered glass and mirrors also make the kitchens look spacious and beautiful.

Aristo is very specific in its design sketches, and have a set of creative designers who craft the most unique and elegant designs that are customised. They are proficient in revamping kitchen zones by incorporating the latest of designs that perfectly align with performance standards.

Aristo saw its inception in Russia 20 years ago and is now a leading player, worldwide, in sliding door systems and interior hardware products. Aristo India began in 2012 in Bengaluru, to be the dream destination for homes that are etched with elegance.

Its products grace over 10,000 homes across the country and more than 15,000 floor-to-ceiling installations in Indian homes have been made so far. ([www.aristo-india.com](http://www.aristo-india.com))

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## SavvyTech: a boon for Indian kitchens

The wire basket trend in the Indian market is slowing down. For years the Indian consumer had no choice but to use them as they were the only economical choice. Slowly people are moving to double runner drawer system.

However, no Indian brand is making organisers for these drawers, so consumers have to rely on premium European brands or go with plain drawers.

Saviesa is the newest brand in the modular kitchen market, brought by the pioneers in modular kitchens. Its innovative product range, SavvyTech, was displayed at IndiaWood 2018, garnering an overwhelming response.

SavvyTech is a range of stainless steel drawers with organisers to keep tools, utensils and implements in the most organised and systematic manner. Its drawer organisers are

available in SS 304 and solid wood.

They are completely adjustable and can be custom-set to suit individual cooking habits, and custom-designed for storage containers that ensure optimum utilisation of space.

Saviesa has designed special attachments for systematic organisation of cutlery, plates, bowls, pots and pans. There are special attachments for plate stacker, knife holders, cling film/aluminium foil and SS canister sets.

The highlights on the side of the drawers are available in beech wood in two finishes: Natural and Walnut. They are the result of in-depth research into the unique needs of the Indian consumers.

These organisers are super flexible, so that they can be arranged in any size and shape.



# LegalDocs helps MSMEs secure loans

The days are gone when accounting, compliance and legal formalities were considered costs to businesses, especially in the medium, small and micro enterprises (MSME) sector. But with the smart digital world it works as one of the best investments.

According to LegalDocs, a Navi Mumbai-based registered firm and collective of chartered accountants, company secretaries and lawyers, customers should start allocating more importance towards this expense and they will be rewarded handsomely.

A stunning example of this was the firm's ability to secure online "in principle" loan approvals for 16 of its MSME customers, within hours of the Prime Minister, Mr Narendra Modi, announcing major procedural and funding reforms for the MSME sector in India recently.

Getting working capital and a business loan of up to Rs 1 crore will surely be a major relief to the MSME sector. Besides, the "59-minute"

loan procedure is collateral-free and has no guarantees attached. Loans under this scheme are available to MSMEs at 2% lower interest rate.

"LegalDocs is passionate about helping MSMEs. We are currently servicing more than 20,000 MSME clients and start-ups for accounting, finance, compliance and legal work," said Mr Gaurav Kumar Kate, CEO of LegalDocs.

"Within 24 hours (of the PM's announcement), we helped 16 of our MSME clients to cumulatively secure in-principle approvals for loans amounting to Rs 8.23 crore," he added.

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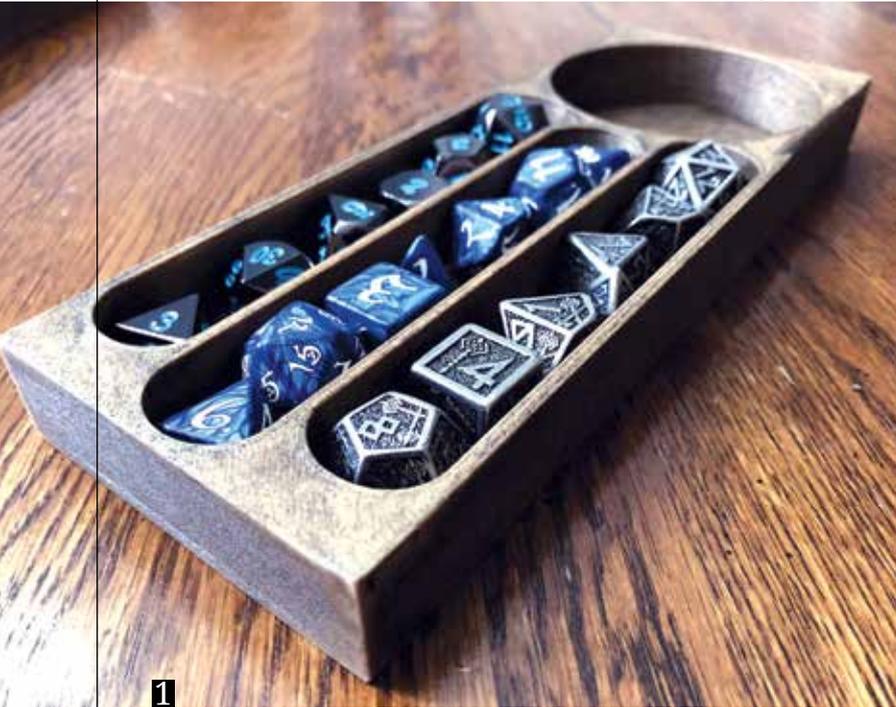
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Turning Wood To Dreams...

# Now, 3D printing with wood filaments!

Courtesy: 3dwithus.com



1

1 A dice tray and vault printed by a 3D machine.

Research at the Michigan Technology University has led to 3D printable wood filament from furniture wood waste: solid slabs and sawdust of MDF, LDF and melamine.

The waste was hammer milled, ground in a wood chipper, and sifted using a vibratory de-airing device. The resulting powder was then mixed and superheated with PLA (polylactic acid) plastic, becoming wood-plastic composite (WPC).

2 A toy printed using wood filament.

The solidified material was then prepared for the open-source recycle bot, a plastic extruder for filament making. The material was tested on a range of items, including a wooden cube, a doorknob, and a drawer handle.



2

Wood filaments are another example of composite material filaments that can be used to make custom 3D prints that do not look and feel like standard plastic. They are made from standard PLA infused with very finely powdered wood materials.

The material fused with PLA may be wood dust, cork, bamboo, or other powdered wood derivatives. Most wood filaments in the market today consist of around 70% PLA and 30% wood fibres. This allows the use of standard desktop 3D printers to make prints that have a distinctly wood-like finish.

## Benefits of wood

Prints made from wood filaments have a finish that comes very close to the naturally grainy look of real wood. The layer lines that normally appear in 3D prints can be sanded very lightly and can end up blending very well with the overall grainy aesthetic.

Wood filaments have a very low tendency to warp or shrink. This allows for cooling while printing. Wood filaments are significantly less abrasive compared to other composite materials such as metal or carbon fibres.

Most wood filaments emit a pleasant wood-like smell, especially during the printing process. The final "print" also inherits this pleasant smell, although to a much less degree.

The combination of wood and PLA results in a composite filament that is largely biodegradable. Anything printed with wood filament can be broken down in a compost or landfill.

The wood particles in wood filaments react with heat, which gives it the unique property of changing colours when exposed to higher temperatures. Experience has showed that wood filaments make prints with darker and richer colours when the temperature is increased.

Most wood filaments print well within a temperature of 170 °C to 220 °C. To really make that wooden look pop out, sanding is recommended using a fine-grit sandpaper. Later, the print can be painted with a number of wood finishing compounds such as varnish, wood lacquer, or wood finishing oil.

However, wood can burn when exposed to high temperatures. This is why it is not a good idea to leave wood filament on the hot end of the 3D printing machine for a long time!



Gloria



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# Europe joins hands to curb forestry waste



1

A consortium of European companies has been formed to collaborate on bringing into industrial production a new process for full utilisation of softwood bark.

Using the new method a high yield of pure tannins can be extracted from the bark for use as a raw material for resins used in wood products. The residual fibre fraction can be used to produce sugar as a raw material for fermentation products. It is also suitable for material applications.

In the mechanical and chemical forest industry in Finland alone, 3 million tonnes of softwood bark are produced annually, which are presently mainly used for energy production.

The method for the total utilisation of the bark has been developed by Finland-based VTT, Europe's leading research, development and innovation organisation,

It forms a part of the European Union's project, 'Systemic Approach to Reduce Energy Demand and CO2 Emissions of Processes that Transform Agroforestry Waste into High-Added-Value Products'.

Traditionally, tannins are extracted from the bark by hot water extraction. In addition to tree species, the extraction yield is influenced by the origin and processing history of the raw material.

From Scandinavian spruce and pine, the yield remains at most 10% of bark weight. The utilisation of bark residues as a source of sugar has been studied through enzymatic hydrolysis.

The yields have not been very high, and consequently much of the bark tannin and carbohydrates have remained unutilised. But the new process uses much higher alkaline conditions and a higher temperature, more closely resembling the wood cooking process.

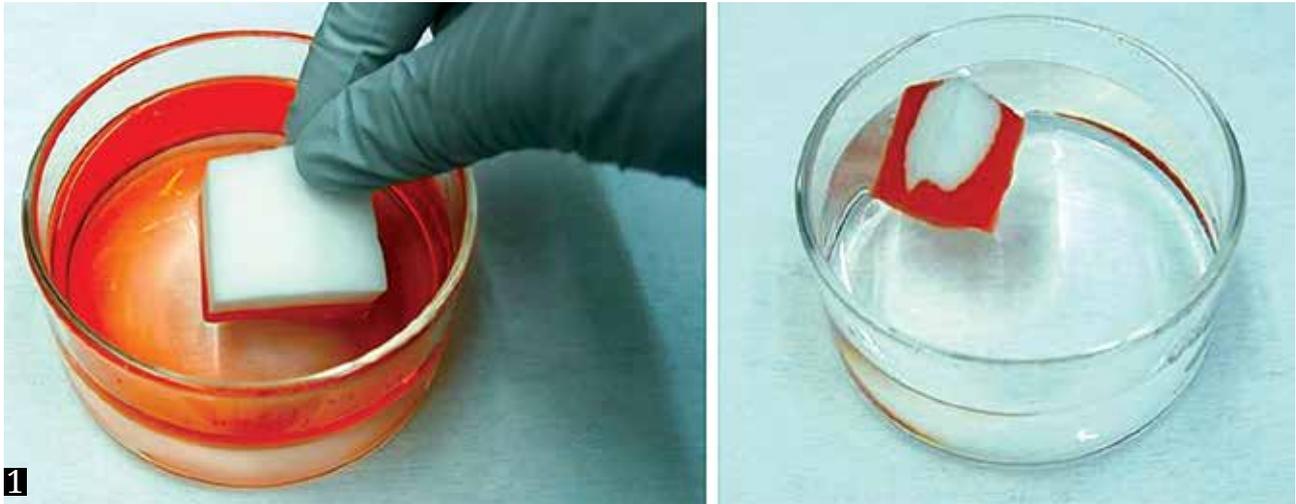
About one-third of the bark weight can be dissolved and isolated as a tannin fraction with significantly less impurities – carbohydrates and ashes – than in a fraction obtained by hot water extraction. This tannin extract is a much more reactive resin raw material than normal kraft lignin.

The same technology as used for lignin recovery is suitable for the recovery of tannin. The fibre fraction can be hydrolysed considerably more easily than after hot water extraction.

The consortium, comprising of BBEPP from Belgium, Foresa from Spain, Bio Syncaucho and Tecnalia from Spain is expected to include an interested supplier of raw material, equipment supplier and application testers to utilise the tannin and fibre fractions.

1 *The whole shell of the needle wood can be utilized by the new process.*

# Wood sponges off oil in water



Courtesy: American Chemical Society's Nano magazine.

Oil spills and industrial discharge can contaminate water with greasy substances. Although it's true that oil and water don't mix, separating and recovering each component can still be challenging.

Now, researchers have created sponges made from wood that selectively absorb oil, and then can be squeezed out and used again!

Over the years, scientists have developed numerous techniques to clean up oily water, from gravity separation to burning to bio-remediation. But many of these methods suffer from limitations, such as low efficiency, secondary pollution and high cost.

More recently, researchers have explored 3-D porous materials, such as aerogels or sponges, based on various building blocks including synthetic polymers, silica or cellulose nano fibres. But these are often difficult to fabricate, lack mechanical robustness or are made from non-renewable, non-degradable materials.

The sponge, created by Chinese researcher,

Mr Xiaoping Wang and his team, is made by treating natural balsa wood with chemicals that removed lignin and hemicellulose, leaving behind a cellulose skeleton. The remaining highly porous structure was then coated with a hydrophobic coating that attracted oil and repelled water.

When placed in a mixture of water and silicone oil, the wood sponge removed all of the oil, leaving clean water behind. Depending on the oil tested, the sponge absorbed 16 to 41 times its own weight, which scientists say is equal to or better than most other reported absorbents.

After soaking up oil, the sponge can be simply squeezed out like a normal sponge. It is capable of enduring at least 10 cycles of absorption and squeezing. It will bio-degrade upon being discarded.

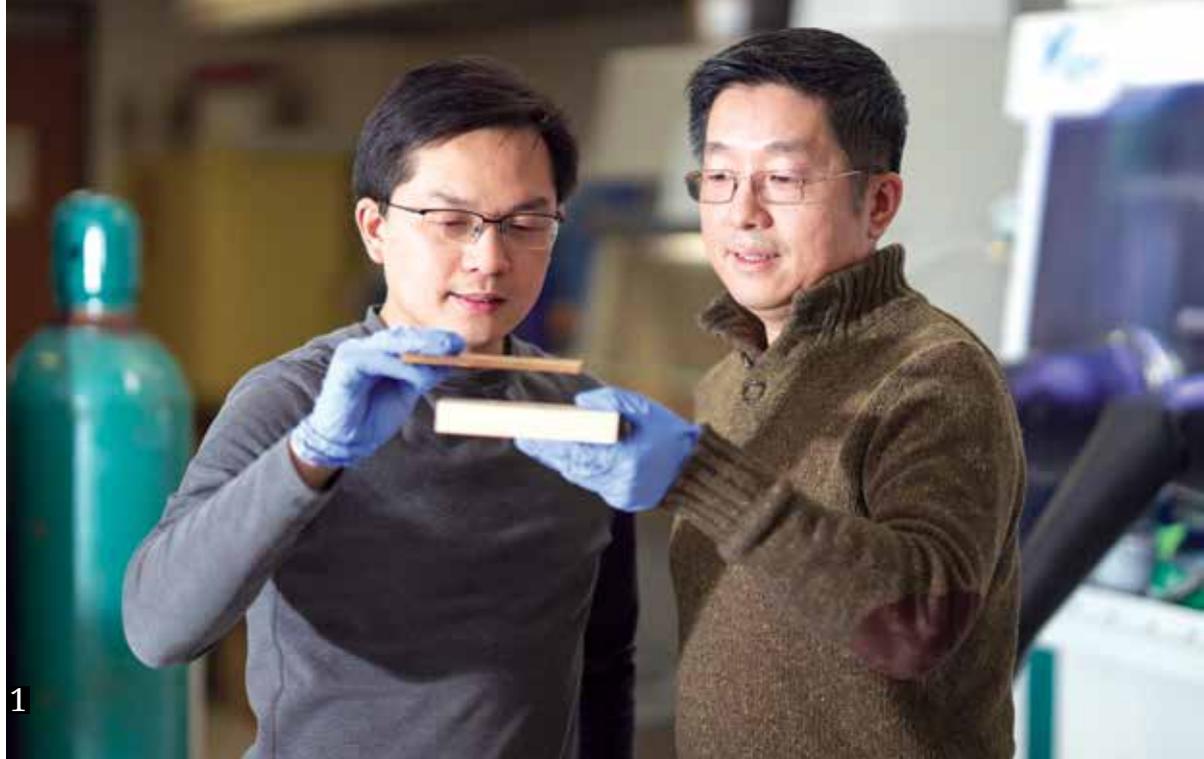
Switzerland's Empa research group has also successfully developed a sponge made from wood waste that absorbs oil, but not water.

**1** A sample of the sponge material draws red-dyed oil from a beaker of water.



## WOODNEWS

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1

# Stronger-than-steel 'superwood' created in US lab

Engineers at the University of Maryland have found a way to make wood 10 times stronger and tougher than before, creating a natural substance that is stronger than many titanium alloys.

The processed wood is as strong as steel, but six times lighter and takes 10 times more energy to fracture than natural wood. It can even be bent and moulded at the beginning of the process.

"This new way to treat wood makes it 12 times stronger than natural wood and 10 times tougher," said Mr Liangbing Hu, associate professor of materials science and engineering member of the Maryland Energy Innovation Institute and leader of the team that did the research.

Hu felt that this product could be a competitor to steel or even titanium alloys as it was strong and durable and also comparable to carbon fibre, but much less expensive.

The research team even felt that soft woods like Pine or Balsa, which grow fast and are more environment-friendly, could replace slower-growing but denser woods like teak in furniture or buildings.

The process provides a highly promising route to the design of lightweight, high performance structural materials, with tremendous potential for a broad range of applications where high strength, large toughness and superior ballistic resistance are desired.

The method is versatile for various species of

wood and fairly easy to implement. This kind of wood could be used in cars, aircraft, buildings or any application where steel is used.

Orlando J. Rojas, a professor at Aalto University in Finland felt that the most outstanding fact was the existence of a limiting concentration of lignin, the glue between wood cells, to maximize the mechanical performance of the densified wood.

Too little or too much removal lower the strength compared to a maximum value achieved at intermediate or partial lignin removal. This reveals the subtle balance between hydrogen bonding and the adhesion imparted by such polyphenolic compound.

Moreover, of outstanding interest, was the fact that that wood densification led to both, increased strength and toughness, two properties that usually offset each other, he observed.

Hu's research has explored the capacities of wood's natural nanotechnology. His team previously made a range of emerging technologies out of nano-cellulose related materials: super-clear paper for replacing plastic; photonic paper for improving solar cell efficiency; a battery and a super-capacitor out of wood; and transparent wood for energy efficient buildings.

These wood-based emerging technologies are being commercialised through a university spinoff company, Inventwood LLC.

1 Liangbing Hu (left) and Teng Li, a professor in mechanical engineering, worked together to create a material known as 'superwood'.

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1

## EUTR compliance stares Indian exporters

From 2019 wooden handicraft exports will require 'legal timber' certification, even from Indian sources

Indian exporters of wooden handicrafts and other wood goods face strict traceability norms in the European Union (EU) beginning 2019, which could dent their trade. Starting next year, the new strict rules require disclosure of the source of timber to discourage illegal logging globally.

Over the past two months, at least 80% of buyers in the EU, Australia and the US have asked for certificates declaring the source of the wood used in handicrafts and if any species was endangered while procuring it, according to the International Timber Trade Organisation.

"Wood consumers in the EU are conscious of the environmental aspect and want wood to come from legal sources because in Asian countries, there is illegal procurement of wood without any traceability," said Mr Rakesh Kumar, executive director of the Export Promotion Council for Handicrafts.

Australia and the US have gone one step ahead, asking for proof of due diligence, he said, on the basis of their laws such as Australia's Illegal Logging Prohibition Act and the US Lacey Act.

About 35% of India's wooden handicraft exports go to the EU and 45% are dispatched to the US. Exports of wooden handicrafts grew 9% to Rs 4,267 crore in 2017-18. In the first six months of 2018-19, these shipments grew 33% to Rs 2,619 crore.

"We expect all our overseas buyers to ask for such compliance," Kumar said. As per international norms, official permits are required to export handicrafts made of sheesham and rosewood.

This is weighing heavy on the Indian wood-based handicraft exporters, considering the adverse impact on the business due to an additional layer of regulation, resulting in cost escalation and extended business cycles, thereby hampering the competitiveness of the exporters.

Moreover, the norms indirectly cover others types of wood such as mango, babool and acacia as well. The other types of wood in India include ebony, neem, salwood, khair and poplar.

1 *Shravan Chopkar of Durg, Chhattisgarh, creates beautiful joint-less single-piece wooden articles like miniature temples and houses.*



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# Wood in computers puts them in 'green' space



1

Reducing e-waste is achieved with softwood construction and scalability

E-waste is a popular, informal name for electronic products nearing the end of their "useful" life. Computers, televisions, stereo equipment, copiers and fax machines are common electronic products.

The global computer market has a high environmental impact – the global manufacture of equipment, its use and disposal, accounts for 2% of the global CO2 emissions, which is equivalent to the entire aviation industry.

About 240 kg of fossil fuels and around 1.7 tonnes of raw materials – many of which are rare and finite – and water are needed to manufacture an average computer. Improper disposal of these electronic wastes results in the products ending up in landfills or otherwise in unregulated processing.

As a result, toxic substances like lead, mercury and cadmium leach into the soil and water, and also pollute the air and pose a threat to the environment. According to the United Nations, up to 50 million metric tonnes of electronic waste is discarded globally every year.

Currently, the near exclusive focus is on post-consumer recycling to solve the e-waste problem, where valuable essential metals such as gold, silver, platinum, palladium, iron, steel, copper and aluminium can be extracted. However, this is itself part of the problem.

Rather than imposing bans on exporting discarded electronics or improving collect-destroy-recycle systems it would be better to have a relook at how electronic goods are currently being made and to see whether more sustainable material could be used.

## Reducing waste

Mr Paul Maher and Ms Anne Galligan co-founded Micropro Computers in 1991. Mr Jose Ospina, who subsequently joined Micropro in 2003, helped develop the IAmeCo range of computers. The team believed that it was better to build computers that did not harm the environment and started working on designing computers that would last up to 10 years, three times longer than the average. The goals in developing the laptop were to achieve a decrease of at least 30% in greenhouse gas (GHG) emissions, at least 70% of overall re-use and recycling of waste and a reduction of at least 75% of fresh water utilisation.

Working with partners in industry and academia the company achieved its goals through simplification and reduction in the number of parts used, reduction in the use of strategic, rare or hazardous materials, substitution with renewable or recycled materials, design and service structure for re-use, and extended life through upgradability.

As part of the certification process the IAmeCo-V3 was tested by the US Department of Electronic and Computer Engineering and the National Standards Authority of Ireland (NSAI) who gave official confirmation of Eco-label accreditation in 2011.

## IAmeCo laptop

The IAmeCo D4R laptop is the first truly environment-friendly laptop made from sustainable resources. The company has focused both on what the laptop is made from, and how it is made in order to reduce energy

1 The IAmeCo V3 wooden touchscreen personal computer.

2 The D4R wooden laptop and solid wood optical mouse.



2



consumption, encourage re-use and eliminate waste.

Some of the key design elements include the development of a universal motherboard, with bus speeds of 800 MHz to 1333 Mhz which allows the use the main Intel i3, Intel i5 and Intel i7 processors. A high performance Solid State (SSD) hard drive was used and a Green DDR 30nm memory with low power requirements and high performance.

Almost all of the materials used in the computer are recyclable, including the wooden frame. Hazardous materials typically used in a computer manufacturing process have been reduced to a minimum for IAmEco and replaced with environment-friendly alternatives.

Because of their modular design, as new technology emerges, a user can update his/her computer to keep it up to speed, rather than throw it away and buy a new one. Despite being equally powerful, IAmEco computers are designed to use a third less power than a mainstream computer and lessen their impact on the environment.

The computers aren't just good on the inside; they are beautiful on the outside too and are housed in beautifully designed wooden cases

made of solid natural woods, including ash, maple and beech.

**Global awards**

Obsolescence has been designed out of the computers, making them easily disassembled and upgraded. This means that parts can be upgraded or replaced without time, cost or effort. With a durable wooden shell and easily upgradable and replaceable parts and components, the IAmEco computers can always remain state-of-the-art, and never become unwanted or obsolete.

Key standard certifications were obtained for the unique design of the casing, the innovative wooden casing for the laptop, as well as the design of the rear aluminium casing and its patented heat dissipation design.

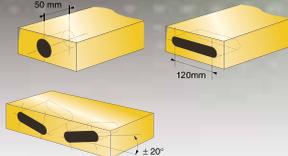
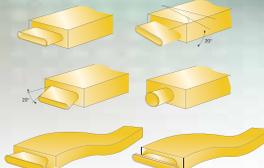
In 2015, IAmEco computers were awarded the Energy Globe Award in Ireland for developing a "green" computer in order to reduce, reuse and recycle computer waste, reduce CO2 emissions and fresh water use.

With more than 170 participating countries and over 1,500 project submissions annually, the Energy Globe Award is a prestigious environmental prize worldwide. It distinguishes projects that conserve resources.



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# Baumer keeps hawk's eye on furniture defects



The systems detect any damage to surfaces and edges, decor defects and dimensional deviations on one side or both sides during front panel and carcass production, foil wrapping and lacquering with maximum speed and precision.

The Q-live networks with ColourBrain system and records the quality of products around the clock – per shift, per product and per production batch.

Baumer counts among its customer the likes of Arauco, Swiss Krono, IKEA, Nobilia, Kronospan and Wilsonart.

## Product highlights:

- Innovative LED lighting systems
- Single/double-sided surface inspection
- Scanner modules with highest sensitivity
- Process analysis and optimisation with Q-brain

For more than 35 years, Baumer Inspection has specialised in maximising precision for surface inspection and quality supervision. With more than 500 installed systems worldwide, its scanners inspect furniture panels, decorative papers, foils, laminate flooring and surfaces and edges of furniture components.

Baumer Inspection is integrated in the Swiss Baumer Group, a world leader for high-quality sensors and systems for factory automation.

Baumer India was established in January 2007 as a wholly owned sales-service subsidiary for the Indian Sub-continent – for India, Sri Lanka, Bangladesh and Pakistan.

Since then Baumer India has offered innovative product like gluing systems, sensor solutions, motion control and vision technology products. (<http://vt.baumer.com/in-en/home/>)

ColourBrain inspection systems automatically detect defects, monitor the production process and continuously measure the colour impression and printing sharpness for papers or decor foils, check the furniture board directly after lamination and check each floor plank and furniture element for the smallest surface and edge defects.

It is used in laminated MDF or HDF boards in short-cycle press lines; high-gloss lacquering of furniture parts; high-pressure laminated boards; carcass elements and fronts, and decor papers and foils.

Special cameras developed by Baumer are used so even at a high speed rate, very high definition is guaranteed. With the patented FlashingSky technology, images can be taken from different angles for all kind of surface damages to be detected.

Newly developed, ultra-sensitive camera modules reliably detect heat streaks, scratches, blemishing or displaced paper; with maximum speed and precision. The Q-brain classification system automatically assigns each defect in the process to its cause and creates the conditions for process optimisation and the avoidance of waste.

ColourBrain Furniture and Edge modules check furniture edges for the smallest melamine and glued joint defects directly in the edging machine, and the lacquering of V-joints and the right positioning of clips in flooring lines.

**1** *Highly-sensitive, special cameras and sensors developed by Baumer offer very high-definition, high-speed imaging from different angles for all surface and internal damages.*

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## CenturyPly offers premium moulded doors



1

Century Plyboards, started in 1986, is the first ISO 9002 Company in India for plywood and veneer. It manufactures the entire range of commercial, marine, shuttering and decorative plywood and the products are ISO 14001 certified.

1 *CenturyPly doors in Sapele, Wenge and teak wood.*

The company manufactures premium panel-moulded, eco-friendly door variants, 'white primered' and 'melamine'.

The exquisitely designed panel-moulded doors with a textured front-face have an

aesthetic charm that adds sophistication to any interiors. Further, these high-density fibre-skin doors come with larger hardwood frames that provide higher strength and durability.

Bonded with CenturyPly's patented glue line internal protection, these doors have a surface density of over 900 kg per cubic metre and are completely resistant to borer and termites.

Manufactured using selected eco-friendly panels, these doors come with a warranty of 5 years. Moreover, keeping in mind the growing need to conserve forests, these doors effectively consume less wood and add towards a more sustainable environment.

Available in affordable price range, both doors come in varied thickness, ranging from 32 mm to 35 mm, with different panel assortments. The doors are primer-finished before shipping and are easier to paint and polish.

These eco-friendly doors are designed to elicit an instant appeal to the consumers with their unmatched opulence. The exquisitely designed panel moulded doors have a wonderful aesthetic charm with textured front face that can kindle sheer sophistication to any kind of interiors.

CenturyPly has its manufacturing units in Kolkata, Chennai, Guwahati, Karnal, Kandla, Hoshiarpur, Myanmar and Laos.

## Eternsoft brings home the magic of VR



Eternsoft, is an innovative Bengaluru-based start-up on augmented and virtual reality (AR/VR) and artificial intelligence (AI) technologies whose quality products provide immersive experiences to diverse industries and elevates

their B2B and/or B2C in sales, marketing, commerce and design.

The software, Eternspace, is designed for interior designers, architects and the home furnishing industry and allows early realisation of designs, quick customer conversations, and improvement in sales, cost and operational efficiency through augmented reality solutions.

It focuses on making things easier to deploy 3D product AR experiences to every step of the buying process to increase conversion rate and significantly reduce rejects and return.

It is designed for B2B and B2C, as connects online and offline channels creating a seamless omni-channel retail experience to drive customer engagement and sales. ▶

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Eternspace, in integration with Eterncloud, makes available the 3D AR visualisation and experience of furniture and interior decors quickly and easily on smartphones and tablets, right where they stand. It could be home spaces, office spaces, in-store and everywhere in between.

With its instant environment recognition and tracking feature Eternspace eliminates latency and delivers a consistent AR experience across platforms and devices. Seamless integration with EternCloud means users can place an unlimited number of 3D

products into a real-world context, using the camera on most standard tablets and smartphones.

Eternspace features include the ability to visualise products and designs in high quality 3D/AR, 360-degree AR view, configurable on the fly, and the ability to anchor the augmented 3D AR furniture in scene. It also collects powerful analytics that help businesses better understand their customers, no matter how they shop.

AR 3D floor planning helps architects to give life to their floor plan designs, visualize and interact with their designs early and at every phase to realize designs quickly. It also gives a realistic impression of how an apartment, house or office will look like and by collecting user specific information and data.

It also allows customers come right to the construction site as 3D augmented house when viewed through smartphone or tablets. They can get the feel of real world size of their house and can even do an augmented reality walkthrough into their fully furnished future home and experience the designs and furnishing of all spaces in detail.

## Redefining 'Profit'ability with Felder's H300



The rising demand for special designs in furniture, door and window production poses a major challenge, especially for smaller workshops. A wide variety of profiles have to be flexibly and efficiently produced in several strengths to successfully compete against major manufacturers in the market.

With a generously dimensioned work area in Y, Felder's Profit H300 offers almost infinite processing possibilities in panel and solid wood processing. Standard and special applications can be flexibly covered with the wide range of services and the numerous equipment options.

For productive working, machine and software must harmonise perfectly for a productive way of working – a large number of interfaces from different vendors make this interaction often difficult. The everything-from-a-single-source solutions from Format-4 are a complete package for the toughest demands.

Whether conventional standard products or individually designed unique items, the universal Format-4 CNC processing centre Profit H300 manufactures single pieces and large production runs with maximum efficiency and is a profit earner from day one.

Along with the specially developed and perfectly harmonised Format-4 software, the H300 is a reliable and complete package for window, door and furniture production. Using the intuitive programs WoodFlash, F4 Design and FlashFrame, planning, programming and implementation of furniture, windows or doors are successfully achieved in next to no time.



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With version H300 16.53, which is specially optimised for large-format production, the CNC processing centre offers a work area of 5,300 mm in the X-, 1580 mm in the Y- and 250 mm in the Z-axis.

The machine chassis of the Profit H300 is made of thick-walled, electro-welded shaped tubes. Maximum stability is achieved through the steel ribbing within the chassis. The moving gantry is driven on both sides with high-precision in the X-axis over a toothed rack with an oblique, cambered tooth form.

A powerful moulding spindle with 15 kW liquid-cooled, the standard drill head with 24 drill spindles and two grooving saws as well as the maximum passage height of 250

millimeters from the console enable efficient manufacturing with the toughest materials.

Up to 36 tool places guarantee virtually unlimited machining diversity and short production cycles. The tool changer moving along on the left of the boom with its twelve tool positions additionally reduces set-up times and ensures maximum machining diversity.

The perfectly harmonized Format-4 complete package consisting of perfect consultation, individual machine configuration and specially developed software as well as delivery, installation and service gets you best prepared for any challenges in perfect woodworking.

## Siempelkamp creates boards with rice straw



1

In Asia, and especially in China, the use of alternative raw materials offers outstanding prospects to the wood-based materials industry. Around the world, more than 500 million tonnes of rice straw accumulate as a waste product in the agricultural sector each year.

However, most of this remains unused and is incinerated or decays in the fields and this could be an ideal source of raw material for medium density fiberboard (MDF) and particle board.

Siempelkamp, the global technology leader in the wood-based materials industry, has developed methods to process this low-cost waste product into high-quality fiberboard. New techniques and innovative building components for the entire plant solve silicate problems (impurities and extraneous material such as sand and clay) and filter substances found in raw materials through a two-stage separation process.

With rice straw, panels can be produced in a climate-neutral manner with a zero-carbon footprint. They are recyclable and merely require a suitable bonding agent for production. MDF, oriented strand board (OSB) and particle board from annual plants fully consist of annually renewable raw materials.

Siempelkamp has developed a dry-gluing process for the production of rice straw panels using a newly developed continuous mixing system. This mixing system allows optimal adaptation of the glue system to the production conditions. Glue consumption levels are lower than in conventional gluing processes, since pre-curing losses are avoided.

The newly developed Neo Blender ensures uniform and continuous gluing of the fibers and is wear-resistant. The screw-type mixing chamber cover makes the system particularly easy to maintain.

The time has come for the hybrid wood composite panel. Composite wood-based materials such as this combine the attributes of various wood composite panels, including special strengths and high-quality surfaces, and are ideal as a substitute for plywood and other materials in applications ranging from furniture production to interior fittings.

Highly robust, multifunctional wood composite panels with paintable and coatable surfaces can be produced. This is possible thanks to a stable OSB core with top layers made of MDF or fine particle board.

1 *The newly developed Neo Blender ensures uniform and continuous gluing of the fibers and is wear-resistant.*

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^  
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# Hettich floor springs add ease to door operations



1

The 463 cam-action floor spring can take 80 kg weight, accommodate doors 950 mm wide in profile-framed, steel and wood, has a door opening angle of 130°, with an inbuilt optional hold open at 90°, and comes in a silver finish.

We all are familiar with floor springs, a mechanical door closing device mostly used for glass doors along with patch fitting. Floor springs are mainly used where both pull and push movement is required.

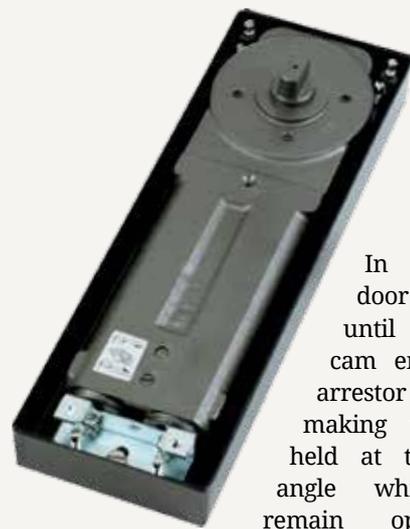
The most prominent area where floor springs are used is for interior doors of a business park, malls and hospitality buildings. Hettich has come up with an impressive range of floor springs.

The process of selection of a suitable floor spring is akin to the selection of a door closer. The criteria involves a process pertaining to a meticulous choice of door dimensions (weight and width), closing speed variation, safety and durability, door closer's performance in fire situation, aesthetics, etc.

Although with floor spring weight is an essential commodity it is not as important as the door width.

Floor springs operate on cam action mechanism where when the door is opened to any one side, the bottom arm fixed to the door rotates the cam spindle and in turn the cam also rotates due to which the cam assembly (connecting rod spring) connected to the piston pulls the piston head.

This makes the compression spring and oil compress and makes the oil rush to the other side of the piston head through the check valve.



2

In case the door is opened until 90°, the cam engages in arrestor pin, making the door held at the given angle which will remain open till disengaged by applying force on the door.

On the other hand, if the opening of the door is less than 90°, when the door is released, the stored energy in the compressed spring tries to push the piston head, resulting in the closing of the door.

Hettich has an impressive range of floor springs in series of 960 series (door width 950-1400mm), 840 series (door width: 750-1100mm), 650 series (door width: 750-1100mm) and 463 series (door width: 950mm) catering to door weight of 300 kg, 150 kg, 100 kg and 80 kg respectively.

The accessories for floor springs can constitute top and bottom pivot, mostly for wooden and steel profile doors. The accessory kit is a collection of reception for floor spring pivot, reception for pivot hinge, and an adjustable pivot hinge.

In addition, cover for floor spring 840 and 650 series is another aesthetically designed accessory available to add charm to the product.

The utility of the floor spring is immense and it is equally imperative to provide the right quality content with durability of service. It is here that Hettich comes with the assurance of right value for the quality characterised product, guaranteed to last for a long time.

2 The 840 series can take weights of up to 150 kg, accommodate doors 1100 mm wide in steel and wood, has a door opening angle of 130°, and comes in a silver finish.

## Homag's PUR flat lamination line



Laminating is currently experiencing something of a renaissance in the field of decorative finishing of wood-based panels.

Major trends such as high-gloss, supermatt, or tactile structured surfaces are raising the bar for surfaces in the furniture industry.

Today, technical innovations and continuous developments are making laminating a powerful, flexible, and reliable finishing procedure. The different requirements for surfaces in furniture manufacturing demand clever production solutions that can be achieved by utilizing the experience and solid process expertise of Homag.

The company has aligned and expanded its portfolio on this basis thus customized laminating technology for specific solutions.

Lamteq F-200 is for laminating of coating materials from the roll or as veneer sheets on a plane carrier plate from top, by PUR hot-melt glue with throughfeed operations.

Polyurethane-based adhesives offer a range of applications and a broad spectrum of properties. They are distinguished by maximum adhesion, are suitable for both indoor and outdoor components, and are highly resistant to solvents, water, steam, heat, and cold.

As PUR adhesives do not contain any moisture, substrates do not swell, stresses during the drying process are prevented making it suitable for bonding a vast array of materials. The low processing temperature makes it ideal for thin thermoplastic films and ensures high-quality standards.

The concept of a PUR laminating line consists of a glue application machine, a lay-up station, and a laminating calendar. The glue application machine applies the PUR adhesive to the base-panel using a rubberized application roller. The base-panel is merged with the coating material in the lay-up station.

A pair of rollers presses the base panel and the coating material together, in a throughfeed process in the laminating calendar. Flexibility and modularity are the distinguishing features of the system. The specific configuration of a system can always be customised.

The innovative handling concept makes working with a laminating plant a unique experience. This means less personnel are required for operations and also removes the need for physically demanding lifting, carrying and flipping of unwieldy panels, with its partly-automated handling solution. All this makes it possible for one person to manage all the work piece transport.



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# Joway delivers a precision cut



**1**

With the aim of providing a precise and smooth performance when cutting through a piece of wood, Joway has brought out P-32, a quality sliding table saw with accurate cutting.

The P-32 is the right machine to use when you are sizing a 4"x8" wood piece. With its light and ergonomic aluminum-made sliding table frame, it is specially made for a stable and precise performance.

The machine is equipped with high quality saw blade and efficient motors that significantly improve cutting accuracy and working condition with low vibration and low noise emissions. The safety guard, set over the saw blade, not only ensures operators' safety, but also helps to collect the dust with its vacuum system.

The sliding table saw comes in four different sizes (by cutting length) – 1900mm, 2600mm, 3200mm and 3800mm. A 3200-mm sliding table saw is able to cut through a piece of 5'x10' panel with ease.

A standard P-32 comes with a 7.5-HP main motor and 1 HP for the scoring motor. The main spindle speed has three speed modes: 3000 rpm, 4000 rpm and 5000 rpm.

Each P-32 is equipped with a 12-inch (305-mm) saw blade and its cutting height is up to 102 mm, when the saw blade is at 90° and 70 mm at 45°. A 370-mm extension saw table and a 1300-mm cutting width device ensures smooth working.

**1** Precision cutting is the need of the hour, just what Joway machines are known for.

**2** The P-32 is a smooth performance quality sliding table saw.

**3** The JR-18 is ideal for precise trimming of plywood work pieces, aided by a laser device and pneumatic rip fence.

**2**



To adjust the main saw height, blade tilting, scoring saw blade +/- direction, the operator has to slightly spin the hand wheels while the angle is shown by a digital display device. A mitre fence allows the operator to make an angled cut.

With the decrease in the availability of solid wood due different countries banning lumbering, more and more solid wood furniture manufacturers have started to look for an alternative options and using plywood instead.

Plywood needs precise trimming before gluing several woodworking pieces to a bigger working piece. JR-18 is an ideal machine for this and its ruggedly constructed structure allows for stable and precise trimming. Additionally, the accurate fence combined with the pressure roller system offers greater positioning assistance with smoother feeding operations

**3**



For longer working piece up to 2 meters, a laser device is provided for an accurate cutting and allows for a distance of up to 4 meters. In addition, for longer working pieces an extended rip fence and feeding table is also available.

In case adjustments are required to be made on the feeding speed while working, the inverter system can help alter feeding speed at 11-28 m/min.

A pneumatic rip fence device helps to save uptime and allows operators to move rip fence manually.

As operator safety is an important, standard JR-18 machine comes with a safety guard, while the choice of anti-kickback fingers is optional.

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Skipper V31

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## Tece makes 'wardrobe' for edge banding rolls

Streamlined storage is the basic requirement in any efficient and functional unit. In a woodworking or a furniture workshop this is especially applicable to edge banding rolls that come in many colours and are usually stored on shelves, on top of each other.

Tece, a producer of furniture edge banding, has developed a hanger which works in the same way as a small wardrobe where, instead of your shirt or jacket, you hang edge banding rolls.

The hanger is a simple and a practical tool that saves both space and time and is designed for medium and small furniture producers. In this specialised tool, there are nine hangers inclusive in the set. And they can come in different width as requested: 19mm, 22mm, 28mm, 42mm, etc.

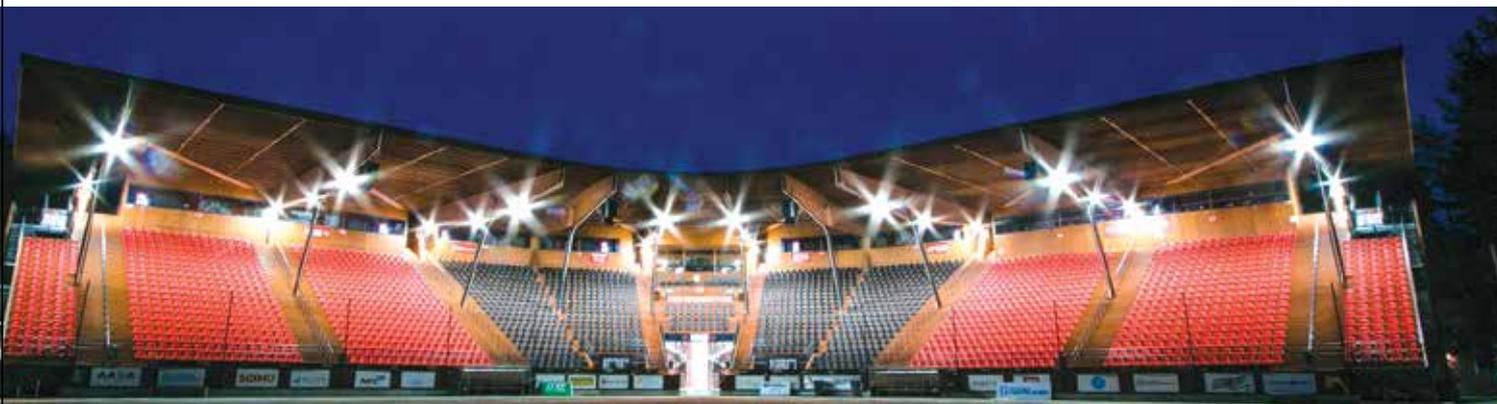
This tool can be a great use for small and medium size workshops, especially if you are changing rolls on a continuous basis in the workshop, and can save lots of time.



An edge bander operator spends approximately 5 minutes to change from one roll to another. If they use only 10 metres from that roll, they will still spend 5 minutes. This tool will save about 4 minutes from that 5 minute. So, in one day, if the operator is changing 20 rolls, it will mean about 80 minutes extra saved time.

However, if you are going to use white colour for 400 metres, this tool does not make a difference. It will be more convenient to use the existing edge banding rack on the machine.

## Teknos drapes stadium in polyurea protection



Teknos, was one of the 70 companies involved in the construction of a baseball stadium with 2,500 seats in eastern Finland, which was completed in 2018. Besides baseball, the stadium will also host concerts.

Coating is one of the most significant factors in protecting the stadium from weather and the wear-and-tear as the floors and stairs are up for a lot of use under the feet of audiences and the changing Finnish weather.

The grandstands function as the roof of the facilities below and the wear rate of the stands

is also high because of the number of people using it. Carefully selected polyurea coating was used for the protection of the floors of the kitchen and toilet facilities of the stadium. To prevent slippage, the coating was roughened.

The wooden floor of the grandstand at the new stadium was given a durable and waterproof coating to protect the area under the stands. The building's frame structures from glued laminated timber were also treated with a wood preservative to protect them from ageing and weathering.

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Edgebander

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tempora F600 60.06



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Teknos also carried out the polyurea coated roofing that protects the facilities under the grandstands and also made the seating waterproof and extremely hard-wearing.

Teknos was the only paint manufacturer able to meet the colour requirements for the quantity of tinted polyurea required and prepared a special batch specifically for this project to match the colour scheme of the stadium. The tinting resulted in the stadium's characteristically beautiful and harmonic colour scheme to be retained.

The project was interesting because the grandstands were wooden and brought its

own challenges because the object was required to be carefully primed.

The glued laminated timber structures were primed with the Aqua Primer 2907 wood preservative. Finding the appropriate coating was easy because the same treatment was used for the protective treatment for the central arena next to the stadium in 2012.

The timber constructions of the stadium consist of glued laminated timber of up to 30 metres, as well as thousands of smaller glued laminated timber pieces and both visible and hidden pieces had to be surface treated. This solution protected the wooden pieces also during construction.

## Luxscan celebrates 20 years of innovation



Weinig Luxscan Technologies, the leading specialist for automated timber optimizing, celebrates its 20th anniversary this year. Today, it has a scanner program for all performance requirements and all investment volumes that also includes systems for strength grading.

In 2007, Luxscan became a member of the Weinig Group, the leading technology provider in solid wood and panel processing. Initially, the company focused on scanners for the recognition of various wood characteristics during cross-cutting.

In 2008, the first rip scanner was introduced. The completely redesigned CombiScan+ Luxscan, with its advanced technology made it possible to detect defects even more precisely, to take more criteria into account and also to grade them according to defined qualities.

Due to its high performance and good integration into cutting systems, the CombiScan+ had a significant influence on market penetration. The EasyScan finally meant the successful expansion of the portfolio to the entry-level segment, in 2012. The enhanced EasyScan+ model set standards also in the medium range.

Luxscan is now in the position to cover requirements on every level. The company employs more than 50 people and pays special attention to innovation and customer orientation. Accordingly, the R&D department is one of the two largest teams. The service is most strongly positioned, with 18 people in eleven languages taking care of customers' concerns.

It currently produces scanners for all performance classes and has a complete range of machines to suit every requirement.

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Jai has the largest sales & service network. Photo : One of the Service Engineers' team.



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Jai is the most popular and highest selling brand. Photo : Customers at Jai Enclave, IndiaWood-2018



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# Affordable 4-sided planer from Wood-Mizer



1

**1** The versatile and durable MP260 can be used in combination with a Wood-Mizer sawmill to produce everything, from logs to finished timber products.

Wood-Mizer, the leading manufacturer and supplier of narrow band sawmills, has released the MP260 four-sided planer/moulder, a versatile, compact machine engineered for professional woodworkers, carpenters, or joiners in the construction industry.

Affordable and easy to use, the MP260 planes and moulds on all four sides in a single pass variety of professionally finished products including flooring, planed boards, crown moulding, cabinet trim, paneling, door and window frames and furniture components, and delivers flexibility to produce finished timber products.

**2** It planes and moulds boards into flooring, crown moulding, cabinet trim, paneling, door and window frames.

Top features of the machine include 4-sided planing and profiling in one pass, large 4-sided cutting capacity (260 mm wide x 100 mm high) and an even larger 1-sided and 2-sided planing/moulding capacity.

The versatile and durable planer/moulder can be used in combination with a Wood-Mizer sawmill to produce whatever timber is needed by the users – from logs all the way



2

through to finished timber products.

The MP260 ships on a pallet and requires minimal assembly. Wood-Mizer supplies planer knives and moulding profiles through their line of cutting tools, and also supplies comprehensive sawdust extraction systems to accompany the MP260.

Wood-Mizer offers a full range of equipment that can seamlessly convert logs into dried lumber and finally into finished wood products and is backed by the company's expertise and commitment to customer service.

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**Real World**



**AR View of 3D Kitchen in Real World**



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## Finnish wood for high-quality applications



Strong and slowly-grown, small knotted Finnish wood is excellent material for interiors and exteriors

In interiors wood is used as surface material for walls, ceilings and floors, furniture, stairs, windows and doors, in features and decorations. The use of wood extends from small private facilities to large public social and official premises.

Very often, wood is used because of the way it looks. The different colours and structures of types of wood and the different interior products made of wood – such as cladding, massive flooring, architraves and skirting, and glued laminated boards and panels – enable the use of wood in countless different ways.

In addition to its appearance and the atmosphere it engenders, the use of wood can influence such things as the quality of indoor air and acoustics. Wood has the ability to absorb and release moisture – in other words to balance variation in the humidity of indoor air. This improves the quality of the air by reducing the need for ventilation, thereby improving energy efficiency.

The potential of wood as a heat equaliser is based on latent heat that is formed when moisture in the air is bound to a wooden structure. The change in temperature that this causes can be used to improve temperature comfort, lowering the load on ventilation systems and energy consumption.

### Energy efficiency

The temperature of the surface rises when moisture is absorbed by wood, and decreases when moisture evaporates from the wood.

The wooden surface can then act as a natural heating panel or cooling element!

During the several last decades wood has been the most popular material for exterior cladding in Finland. The reasons behind the popularity are the beautiful outlook, ecological approach, constructability and renewability.

When used in the right way, wood is long-lasting and functional material for external cladding. In Finland, there are examples of houses with more than 100-year-old exterior claddings, which are still in excellent condition.

In addition to Finland, also in Alpine countries there are traditions to use Finnish wood for external claddings as the quality is seen superior to other options. Popular choices for exterior cladding are spruce, heart wood of pine and thermally modified pine or spruce.

Recommended thickness of exterior cladding varies between 23-28 mm. The thicker the cladding the better it can balance the moisture content, which is dependent on the changes of weather.

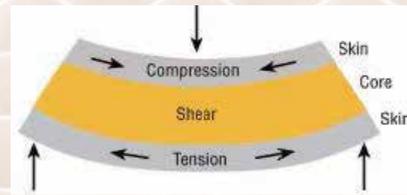
Industrially primed exterior cladding is excellent choice as the surface material is protected from rain and UV radiation from the very beginning. Wooden exterior claddings are easy to maintain.

Right-timed and correctly implemented maintenance painting is very important for the durability of exterior cladding. For more information visit [www.woodfromfinland.fi](http://www.woodfromfinland.fi).

## A Revolutionary Paper Technology In Sandwich Construction:

The purpose of a core in a composite laminate is to increase the laminate's stiffness by effectively "thickening" it with a low-density core material. This can provide a dramatic increase in stiffness for very little additional weight.

The figure opposite shows a cored laminate under a bending load. In this mode of loading it can be seen that the upper skin is put into compression, the lower skin into tension and the core into shear. Consequently, one of the most important properties of a core is its shear strength and stiffness. In addition, particularly when using lightweight, thin laminate skins, the core must be capable of taking a compressive loading without premature failure. This helps to prevent the thin skins from wrinkling, and failing in a buckling mode.



flange carries the tension and the compression



core holds the flanges together in proper form

The Honicel-honeycomb sandwich construction may be compared with the I-beam structure commonly used in construction industry. In an I-beam, the flange carries the tension and the compression whilst the body / core hold the flanges together in a proper form. Likewise a sandwich construction, a low density core material is sandwiched between two strong thin facings of any kind of material, resulting in a lightweight, incredibly strong, stiff composite structure, which acts in the same manner as a continuous I-beam with the skins and flanges taking bending stresses whilst the core acts as a web to carry shear and compressive loads.



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Edge banding with PUR adhesives  
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Moisture-curing reactive (PUR) adhesives are known to provide numerous production and finished product benefits to woodworking applications such as edge banding. However, they are also known for being challenging to process and handle.

Nordson PURBlue™ melters simplify the use of PUR. The user-friendly melters have graphic controls for easy set-up and day-to-day operation. The designs use single-tool, quick-release fasteners on panels and covers for ease of cleaning and maintenance. And, the

systems do not require inert gas. The PURBlue™ melters' melt-on-demand process, heats only the adhesive needed. This reduces thermal stress and protects bonding characteristics.

The EB60V edge banding gun provides a cost-effective alternative to open glue pots. The closed system provides accurate dispensing, prevents adhesive contamination and minimizes clean up. The slot gun helps reduce maintenance and wear on parts and the adhesive waste associated with charring and premature curing.

A wide range of hot melt adhesives, including EVA, polyolefin and PUR, can be applied at coating widths ranging from 0.4 to 2.4 inches.

To know more about how our products can help you easily benefit from PUR use, contact Nordson India today or visit our website. Find us on:



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Bangalore 560 099 India





## Axalta introduces new wood finishing collection

Axalta, a leading global supplier of liquid and powder coatings focuses solely on coatings and providing customers with innovative and sustainable solutions. The company has now introduced into the market a new range of industrial wood coatings “Wood Vibes”. The collection is inspired by the beauty of nature and explores colour and design trends of the wood coatings industry.

The new labels are designed with brighter colours and prominent brand names. The key differentiator is the product code, which is now larger and bolder, making it more visible. These changes will enable users to quickly

and efficiently find the product they need.

“Changing coatings labels gives a new brand identity and customers can rest assured that they will continue to receive high quality products and services,” says Wade Arnold, Vice President of Industrial Wood Coatings for Axalta Coating Systems.

The Industrial Wood Coatings business of the company is one of the leading providers of coatings for OEMs and distributors engaged in industrial wood markets, including building products, cabinets, flooring, and furniture across North America.

## Cefla turns the spotlight on lighting



wireless connectivity fields with LED-powered products and innovative services that use unique smart technologies.

The Lighting Business Unit will work in synergy with Cefla’s longer-standing businesses, using LED technology in the design of solutions for public lighting, visual merchandising, interior design, indoor lighting and greenhouses.

The LED modules are customised in terms of size and optics, colour temperature and chromatic yield. These are used in a variety of fields: from the fast-growing horticulture (greenhouse and indoor) and retail (fresh and refrigerated products) markets to the contract, medical (where high-tech instrumentation demands outstanding quality), outdoor and industrial fields.

The Italian business group, Cefla, announced the establishment of Cefla Lighting, its fifth Business Unit. With this, Cefla aims to consolidate its position in the lighting and



## Stockholm plans cross-laminated timber towers

to build a new Swedish city area with.

Made of the trending CLT, the 31 towers will be between 25 and 35 storeys and spread across an area of 19 blocks. In addition to homes, the buildings will contain more than 90 shops and restaurants.

Because the Stockholm district is located in valley, the buildings will line up with the surrounding hills. Raised walkways will allow easy access to the valley's trails.

Cross-laminated timber and mass timber construction have been on the rise throughout the U.S and around the world. CLT can be used to construct buildings of equal strength and fire-resistance as those made of steel and concrete. Currently, many projects are finished or are in the works. An 18-story CLT wood structure, a student residence at the University of British Columbia, is nearing completion.

Swedish architects are planning a housing development on Stockholm's waterfront featuring 31 cross-laminated timber (CLT) towers. The architects are describing the proposed district as an environmentally-friendly "wooden skyscraper city". Around 5,000 new homes will be created.

Wood is the building material that releases the least carbon dioxide in today's construction industry and is therefore the obvious choice

## Dieffenbacher's knife ring flaker wins design award

The MRZ knife ring flaker is the first collaborative design project of Dieffenbacher's Wood Business Unit and the Tübingen design firm, defortec.

The clear, lightweight and dynamic design of the knife ring flaker reflects and supports its functionality. The design also underscores the advanced technology of the machine, facilitates accessibility for maintenance work, and ensures increased work safety.

The design of the new knife ring flaker recently earned recognition from the international jury of the Design Center Baden-Württemberg, receiving its Focus Open Silver Award 2018. The jury said that the design "graphically visualizes the enormous forces at work inside the machine during the flaking process and conveys solidity and reliability. There is an architectonic quality to the pared-down form and structuring of the housing, which looks compact but not overpowering."



With its iconic design and powerful appearance, in combination with the outstanding performance of FlowOptimizer technology, the MRZ, creates a distinctive appearance that sets a new benchmark for knife ring flakers.

## Fungus that preserves wood - not attack it!



Researchers at Eindhoven University of Technology have, for years, studied the effect of black fungi on oiled wood that behave like a 'biofinish'. This layer colours the wood and protects it from wood rot and degradation by sunlight and the fungus automatically repairs damage in the protective layer.

The discovery had already been made almost 20 years ago, by chance, by researcher Michael Sailer who investigated whether vegetable oil can conserve wood. He discovered that pieces of coniferous wood impregnated with linseed

oil and hemp oil turned black after being exposed to wind and weather but the discoloured wood did not become soft, like rotten wood, it remained hard.

Elke van Nieuwenhuijzen, who did her thesis on the subject along with the Westerdijk Fungal Biodiversity Institute in Utrecht, has now thoroughly investigated the natural fungal composition of these layers. She laid planks of three types of wood (spruce, pine, ilomba) that were impregnated with three types of oil (olive oil, crude linseed oil, stand oil). The fungi then formed automatically and on some planks formed an opaque black layer.

The effect of the protective layer partly results from the discoloration: the black layer blocks UV light, and thus prevents degradation. Researchers also suspects that the dark pigmented fungi, due to their exuberant presence, do not give any chance to wood-destroying fungi. That oil repels water is probably beneficial for the dark pigmented fungi. Water then lies in droplets on the wood, which is where the fungus thrives.

---

## Microchips to protect trees from smugglers

Foresters and farmers in Karnataka, Kerala and Andhra Pradesh have decided to go high-tech to protect the precious flora from smugglers and timber mafia. Scientists from the Bengaluru-based Institute of Wood Science and Technology (IWST) have helped insert microchips in precious trees of the region including sandalwood, red sanders, teak and mahogany to alert the owners about the trees being stolen or uprooted.

Buoyed by the success of its pilot study on the IWST campus in Malleswaram and an agroforestry farm near Nelamangala, the scientists now plan to insert microchips in forests and farmlands of Karnataka, Kerala and Andhra Pradesh.

IWST, last year, in association with Hitachi India, had developed chip-based sensors and related software for recording signals. The microchips were inserted into trees especially

the 50 sandalwood trees on the campus on an experimental basis. The improvised chips will be inserted into sandalwood trees in Marayur range in Idukki forest division of neighbouring Kerala.

The camouflaged bark-coloured chips running on the Internet of Things (IoT) technology are just 1.5 inches in size and can easily be inserted into trees. The chips pick up vibrations triggered by axes and saws. The accelerometer and a radio frequency emitter in the chips send signals to the server and owner of the forest patch or planter or to the Security guards.

The chips are water and dust resistant and adapt to various agro-climatic conditions. The sensors are capable of distinguishing between the vibrations triggered by axe or saw cut or natural forces like wind and rain.

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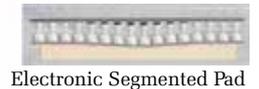
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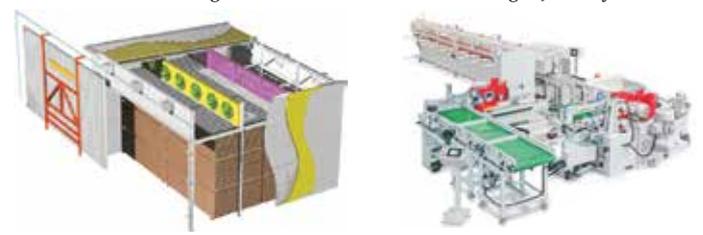
Double Side Planner

Heavy Duty Automatic Copy Shaper



Seasoning Kiln

Automatic Finger Joint System



## Jowat opens House of Technology



The adhesives specialist Jowat recently opened the doors of its new House of Technology to the wood and furniture industry. Under the headline “Open doors for service that unites”, the Innovation and Application Centre welcomed industry professionals from Germany and abroad. The 2018 symposium was attended by a number of participants and promoted an active transfer of expert knowledge from the world of bonding.

The lectures session was started by “lignotrend”, a manufacturer of cross-laminated timber solutions and just one of many companies that provided products for

the construction project of the adhesives specialist from Detmold. The program was rounded off by lectures focusing on doors – from the manufacturing of door leaves or frames, to “Appretur” finishing in lightweight construction.

The new 2,500 cubic metre Jowat Innovation and Application Centre named “House of Technology” will house the enterprise’s research services, including several labs research application technology for the clients, as well as exhibition and training rooms. It will also include two machinery halls facilitate edgebanding, wrapping, flat and 3D laminating applications.

## Merino Experience Center in Maximum City

The Merino Group, a manufacturer and marketer of interiors solutions, launched their exclusive “Merino Experience Centre” in Mumbai recently. It will serve as a one-stop solution for all surface needs, with a display of all its products under one roof.

The Merino Experience Centre not only offers display of the complete bouquet of Merino’s product portfolio but also adds value when it comes to experiencing them in real life scenario, with all possible surface products combinations. The Mumbai centre clearly showcases how the brand can offer, decorative laminates, to compacts, PU acrylic panels to internal and external wall cladding to restroom solutions, offering all surface solutions from one brand. It looks to find new ways to explain the power to create



“customized surface products” by choosing variety of designs, textures, finishes and subsets, from one brand, with the ease of customization.

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## Sotheby's eases into the E-commerce space

Sotheby's, the world renowned auction house, recently launched Sotheby's Home, an online consignment marketplace specializing in vintage and antique furniture, decorative objects and accessories. Sotheby's Home connects collectors and design lovers with an approachable new platform to buy furniture, art and home décor from showrooms, dealers, interior designers and private individuals. For consignors, the platform offers a solution encompassing all steps of the selling process, from curation and photography to moving and delivery.

Sotheby's Home now intends to expand the brand's growing e-commerce portfolio, which includes a robust program of live and online-only auctions as well as the retail business.



The launch of Sotheby's Home is supported by the acquisition of Viyet, in February 2018. Since being acquired, web traffic to Viyet.com has increased over 200%, doubling monthly revenue. The site has expanded its inventory, building new relationships with over 60 galleries, showrooms and brands and provides a new platform to buy designer furniture, antiques, accessories and art, with ease.

## Dobson Pipe Organ Builders wins Wood Pro 2018 award



*Dobson Pipe Organ Builders won Best of Show and a \$500 cash prize for the project "St. Thomas Church NYC Organ Project."*

*Photo by Dobson Pipe Organ Builders*

Dobson Pipe Organ Builders was adjusted the winner of the 2018 Best In the Wood competition at the 2018 Wood Pro, for its St. Thomas Church NYC Organ Project. Wood Pro Expo is a regional event for woodworking businesses that brings together suppliers and experts for a localized presentation of equipment and supply solutions.

The 2018 winners were selected from the following categories: architectural millwork, custom furniture, custom kitchen/bath cabinetry, residential built-ins and specialty items.

Saint Thomas Church is home to some of the most celebrated liturgical wood carving in the United States. It was understood from the outset that the new organ case would incorporate a substantial amount of carving, and that it would have to meet the lofty standard set by Irving and Casson in their work for Saint Thomas.

Lynn Dobson and Dennis Collier, who were chosen to execute the work, collaborated closely, with Lynn preparing drawings of carved features and Dennis interpreting them in models for the approval of the organ committee. The final pieces were then carved by the Colliers and their team of artists.



## Spray System from Germany to Enhance Edge **Finish Quality**

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# State-of-art machines from the Jai stable

Jai Industries offer an unparalleled array of products that include woodworking and panel processing machinery and electric motors. It is well known for its engineering quality, technology and innovation.

Its range of machines are products of R&D backed, high-end precision engineering and have the best possible features and are made of the topmost quality material and component. All the products are backed by dedicated service and guidance.

Jai currently manufactures 30,000 machines a year in its seven plants that have a total floor area of 4, 00,000 square feet. Its machines are specifically produced to suit Indian working conditions.



## Panel Saw J-3200.in (2.0)

The machine is suitable to cut the panel board to required measurements from 8x4 feet or 9x6 feet sheet. It is suitable to cut all kind of chip-free laminated chipboards and MDF, HDF and panels. Panel saw of maximum strength and rigidity with value-added features.

### Salient Features

- Heavy-duty, precision-sliding table with linear bearing developed with advanced technology with multi-chamber system for maximum rigidity of the double roller carriage
- Sturdily built, heavy-duty machine that suits Indian working condition for precise, burr free cutting
- Lifting and tilting of saw unit by hand wheels, positioned at the front for more convenience
- Scoring saw, precision lever mechanism for manual adjustment and controls
- Electronic digital readout of saw unit tilt
- Anodized aluminum rip fence with sliding system on heavy, round bar for parallel cutting up to 1250mm. Fine setting mechanism allows for precise measurements for parallel cuts

- Easy and fast saw-scoring blades changing. Also, entire saw unit on heavy duty, cast-iron trunnion.
- Saw unit vertical movement on precise, round guides ensures smooth operation. Its closed structure guarantees high rigidity that is vibration free.
- The sturdy frame provides a rigid support for cutting, with telescopic cross-cut fence. Also, panels to be squared and cuts an angle up to 45°



## J-2000.in (Semi-Auto Curvilinear Edge Bander)

Edge banders are mainly required for producing straight panels and these advanced, tech-heavy duty machines suit Indian working conditions. It gives precise application of linear or straight edge banding and round cornering for materials like veneer, melamine, PVC or ABS.

It is the most efficient entry-level edge-bander the panel industry can get in this category and all basic edge-banding work can be done on it. It has Euro standard features like optimal and consistent glue-spreading, heat bonding and pneumatic edge-cutting.

### Salient Features

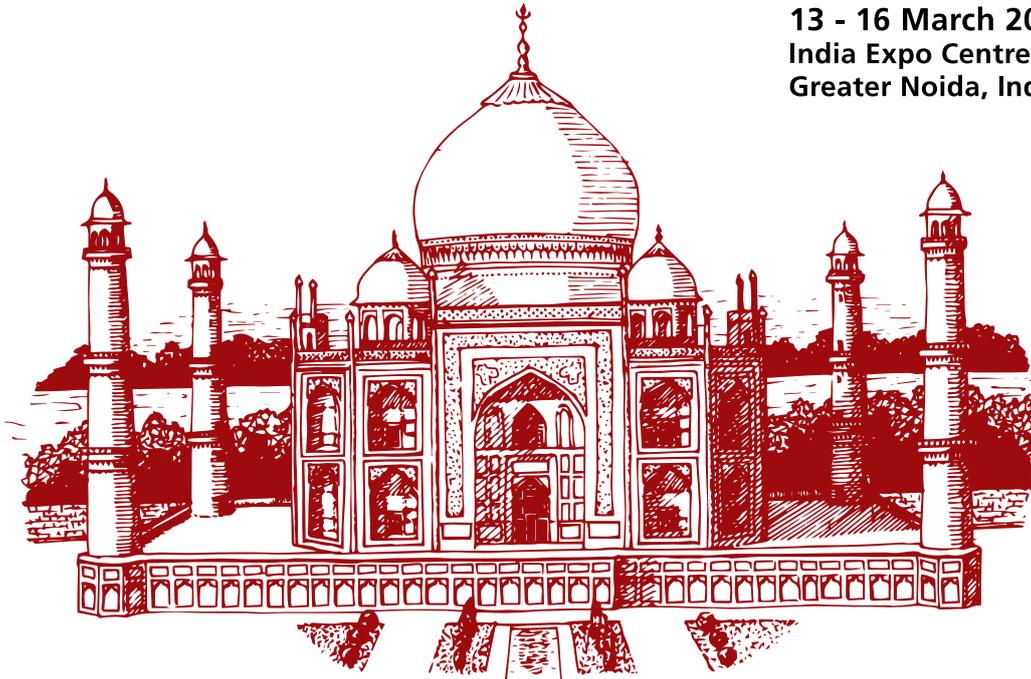
- Pneumatic cutting device for pre-defined length, with foot switch
- Electronic digital millimeter counter to adjust the length
- Double glue rollers in gluing device
- Easy regulation for 2-speed
- Revolving edge coil holder plate 525 mm Ø
- Electronic, digital temperature controller with safety circuit, which allows starting of the motor only when the hot glue has reached the set temperature
- Working M.S. table with specially designed hylum strips for heat insulation and frictionless movement of work-piece

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- 600+ Exhibitors from 30 countries
- 12 Country pavilions / Group participations
- 30,000+ Woodworking Professionals
- 100+ Media Representatives
- 40,000sqm Exhibition Space

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**J-5700PRc.in (Auto) Edge Bander**

This machine is incorporated with the ultimate, high-end advanced technology with highest features and is made available at an unbeatable price.

**Salient Features**

- Sturdily built, heavy-duty machine to suit Indian working condition for precise application of edge banding material
- Innovative, pre-melting, sensor-operated, Teflon-coated glue tank having a glue drop system, which consumes less glue compared to other edge banders resulting in increased profits
- High-frequency, compact motors sliding on a prismatic guide ways for perfect finishing with trouble free performance
- Automatic lowering of the glue temperature after a temporary non-use of the machine
- Edging wooden strip of up to 12mm
- High-performance machine with feeding speed of 12 m/min that gives more production for PVC/ABS & 6 m/min for wooden strip
- Motorized up-down movement of pressure beam for easy thickness setting

- Scraping unit with an extraction hood complete with a suitable container and filter for long chips
- All electronic & pneumatic parts are from well-known international brands
- Overall Meter Run (OMR) of edge band tape is displayed in PLC
- Project Meter Run (PMR) is to calculate total usage of edge band tape in a particular project
- Low maintenance machine, easy available cost effective spares, best service support.



**MJ-2103.in (Semi-Auto) Triple Head Multi Boring Machine**

This is a semi-automatic boring machine equipped with a horizontal and two rotating vertical boring heads (0-90°) with 21 spindles for executing holes in a line for the wardrobe side processing

The two vertical heads can slide away from each other depending on the center distance required between them. They also rotate by 90° giving more location positioning. A digital counter is available for adjusting boring depth. The aluminum fence has 4 reference

**Technical details (MJ-2103.in (Semi-Auto) Triple Head Multi Boring Machine)**

Maximum working thickness	mm	70
Maximum Size of Work Piece (L X W)	mm	3000 x 1220
Number of Spindle Head	no.	Three
Number of Spindles Per Head	nos.	21
Center Distance Between Each Spindle	mm	32
Minimum Center Distance Between 2 Vertical Heads	mm	220
Maximum Center Distance Between 2 Vertical Heads	mm	1220
Shank diameter of drill	mm	10
Spindle Rotation Speed	r/min.	2800
Maximum Drilling Diameter	mm	35
Drilling Depth	mm	0~50 (drill length 70mm)
Electric Motor-3 Phase	no / hp	3 x 2
Total power	hp	6

stops that slide on support rollers for smooth positioning, making it easy to feed a long work piece. Boring depth adjustment and setting of horizontal boring head is easy and quick. An auxiliary support frame gives better solution for long panels.

Models are available in single and double head.



**J-3400.in Spindle Moulder with sliding & tilting facility**

The machine is used to give form to the edges of materials such as chipboard, MDF panels or boards. It is mainly required for preparing moulding and making profiles like bull nose, duck nose, half round for post forming.

**Salient Features**

- A side ripfence of aluminum, which is adjustable
- Ground and electronically balanced spindle for vibration-free operation
- Easy and convenient system for locking of spindle shaft
- Spindle driven by motors through V - belts and are housed in sealed bearings; thus ensuring minimum maintenance
- 2 - Spindle speeds 6000 / 8000 RPM for selection depending on tool diameter.
- Dust chute is provided on fence assembly for dust evacuation

An optional Auto feeder AF-38 for auto feeding of work piece is also available. Auto feeding of the work piece improves production, reduces cost and results in better finishing with accuracy and safety.



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## EVENTS CALENDAR

### CAIRO WOODSHOW

November 3 - December, 2018

Venue: Cairo International Convention & Exhibition Centre (CICC)

Cairo WoodShow comes under the patronage of Ministry of Trade & Industry of Egypt. The fourth edition of the show will continue to provide opportunities for business professionals, not to just meet industry experts but also learn about the latest trends, technologies and products. The exhibition plays a fundamental role in further developing the market of wood and wood machinery industry in Cairo, the most vibrant market place and the capital of the North African commodities market.

www.cairowoodshow.com

## MEM INDUSTRIAL

16 - 18 January, 2019

Venue: Centro Citibanamex, Mexico City

The Next edition of this annual exhibition will provide specific business platforms for each segment and create better business opportunities for participants. The Expo is a trade fair focused on technology, machinery and material supply for the forestry, woodworking and furniture manufacturing industries. The show will present all trade visitors with a wide and well-structured range of products, providing a useful platform for business.

www.hfmexico.mx

## DELHIWOOD

13-16 March, 2019

Venue: India Expo Centre & Mart, Greater Noida, India

The 6th edition of the Indian furniture manufacturing industry's eagerly anticipated biennial event will showcase modern automated solutions in furniture and wood-based production technologies, to help the industry to tap into the US\$ 35-billion furniture market. Production technologies covering machinery, tools, fittings, accessories, raw materials and products will be displayed and demonstrated over 31,000 square metres of space.

www.delhi-wood.com

## DUBAI WOOD SHOW

12 - 14 March, 2019

Venue: Dubai World Trade Centre, Dubai (United Arab Emirates)

Dubai WoodShow is the premier destination for wood specialists who visit the show every year from across the globe. It is the region's only dedicated business-to-business meeting place for the wood, wood accessories and woodworking machinery industry. The 14th edition of the trade show will continue providing a platform for suppliers, manufacturers & machinery companies to showcase their products, innovative technologies, production scenarios and large scale machinery to key players in the wood & woodworking machinery industry in the Middle East and North Africa region.

www.dubaiwoodshow.com

## CIF/INTERZUM

28 - 31 March, 2019

Venue: Pazhou Complex, Guangzhou, China

The 43rd edition of China International Furniture Fair, Asia's comprehensive woodworking and upholstery machinery, furniture production and interior décor trade fair will feature latest trends in furniture production, woodworking machinery and interior decor industry. It will take place at in Guangzhou over two phases, divided according to product sector: the first, from 18 to 21 March 2019, is dedicated to home furnishings, outdoor and leisure furniture, home décor and home textiles; the second, from 28 to 31 March, will be for office furniture, hotel furnishings, accessories, metal furniture, and furnishings as well as materials and machinery for the furniture industry.

The reinvented edition of the expo will host over 4,100 exhibitors over 760,000 square metres and attracts participation from over 132 countries and regions.

www.interzum-guangzhou.com

## FIMMA BRAZIL

26 - 29 March, 2019

Venue: Fundaparque, Bento Gonçalves, Brazil

With less than five months to go, FIMMA Brasil 2019 aims to be a fair of differentiation and innovation. With 65% of the spaces already marketed, it has the confirmation of important national brands. The Forestry sector will gain exclusive space with the purpose of exalting the importance of this sector as supplier of wood for furniture. The 14th edition aims to bring Brazilian entrepreneurs and foreign buyers closer and seeks to encourage the development of micro and small companies in the segment.

[www.fimma.com.br](http://www.fimma.com.br)

## UMIDS

3 - 6 April, 2019

Venue: Expograd Yug, Krasnodar (Russia)

UMIDS is an International exhibition of equipment, components, technologies and products for the woodworking and furniture industries. It is the leading expo of furniture, materials, components and equipment for furniture production and woodworking in South Russia and is the ideal location to view manufacturing of furniture, equipment, components and materials for furniture production. It provides a unique opportunity to get acquainted with a wide range of technologies showcased by exhibitors and to choose products and services necessary for furthering business.

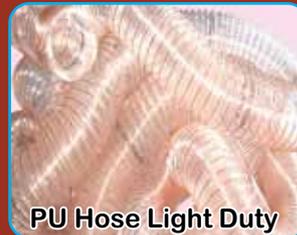
[www.umids.ru](http://www.umids.ru)

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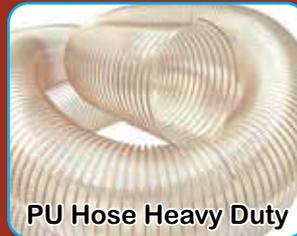
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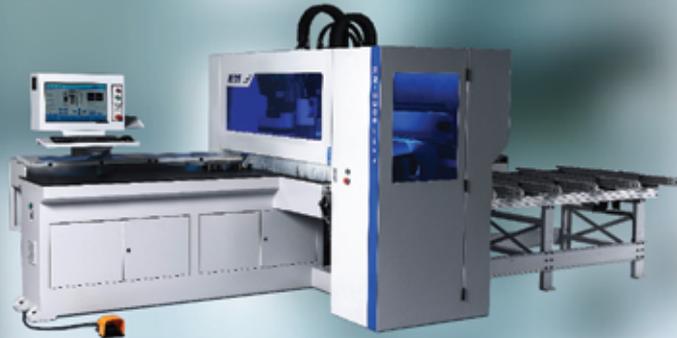
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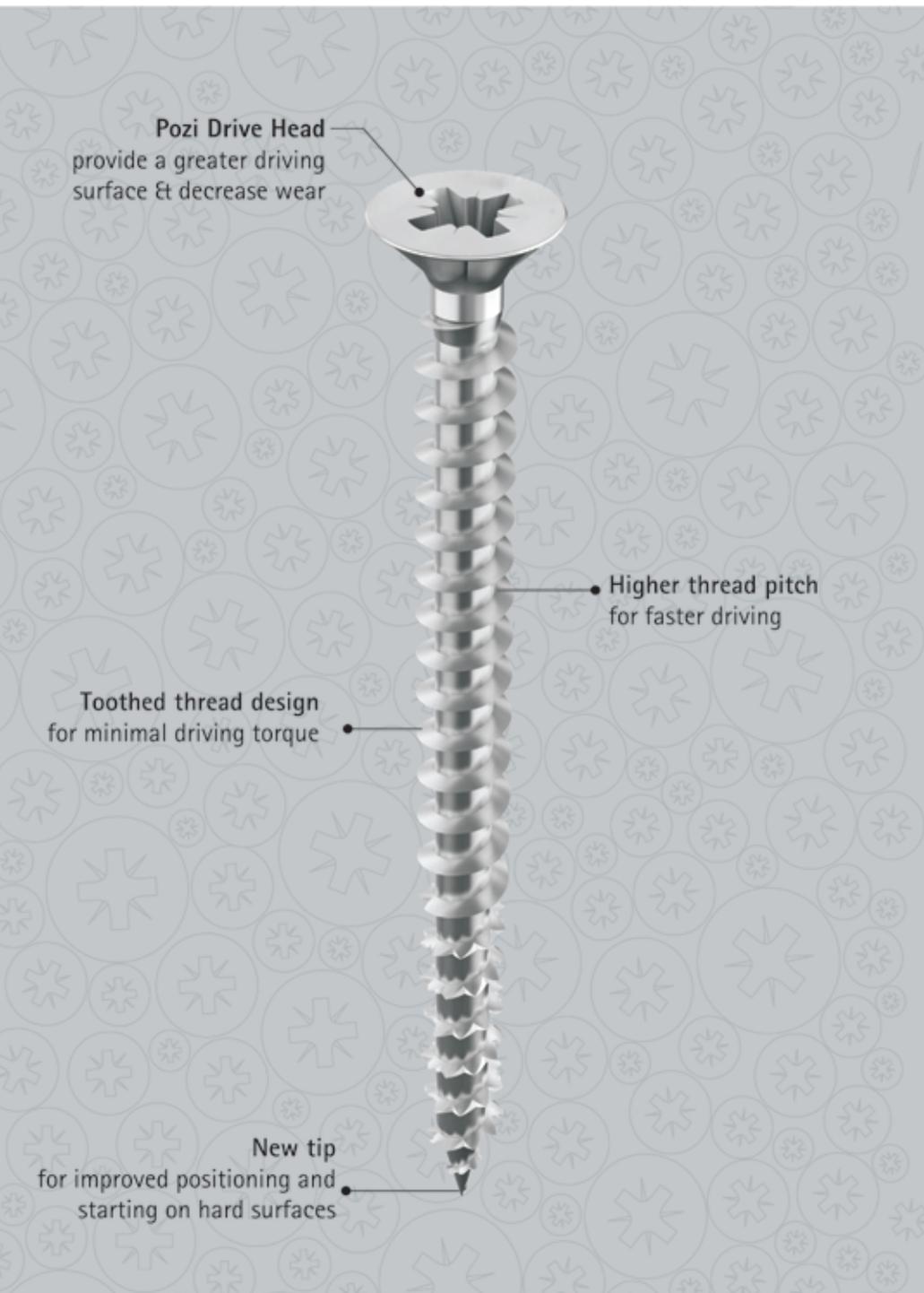
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