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Pinnacle Locally Manufactured by multisaw band sawmills
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Bodgers, “botchers” and good news

First of all, a big thank you to Don Priest. Don is a stalwart in the sawmilling industry, an ardent reader of this magazine and he belongs to that rare breed known as “communicators”.

If Don wants to clarify with something he reads in the magazine he phones to discuss it with me. Most often if he reads something that ignites his interest, he writes an email to the editor. The topic of his letter this month is Windsor chairs and the bodgers. Who or what is a bodger? Read Don’s story to find out.

This month we describe how one government department botches and another giveth. The department of environmental affairs (DEA) has a new home, but its carbon tax is law. Unbelievably, the DEA and treasury department classify structural timber, poles, paper, and other wood products as sources of carbon emissions. They have ignored the United Nations’ Food and Agriculture Organisation (FAO) recognition of the carbon neutrality of biomass.

Illogically, the government says that any loss of plantations to fire, pests, diseases or land-use change, will also be treated as an emission. Plantations are an agricultural crop that locks in 13 to 17 times more carbon dioxide than the grasslands they replaced. Therefore, the products produced should be acknowledged as contributions to sequestrating GHG and thereby mitigating climate change.

The carbon tax is an anathema in the light of the government’s investment into carbon-emitting projects like the coal-fired Medupi and Kusile power stations. At worst, forest products, even from indigenous forests, should be treated s carbon neutral, as long as the forests are replanted and sustainably managed.

In addition, the contracting construction industry profoundly impacts on the structural timber market, and the sawmill and forestry industries are feeling the pressure. To make matters worse, it seems the problem with suppliers who sell black cross as structurally sound timber is growing. If not stopped asap, the sawmilling industry and its wholesale and retail customers will not be able to survive. There is either a complete disregard for the safety of homeowners or many uninformed builders and contractors who are using the cheapest materials they can find to make a quick buck.

On a positive note, kudos to the furniture industry, Bernadette Isaacs, Proudly South African, and the Department of Trade Industry and Competition. After many emotional and hard-fought battles, the Furniture Industry Master Plan is a giant leap closer. A crucial part of the master plan is the local procurement of raw materials and products.

Sadly, this strategy is too little too late for Evowood. The liquidation of Evowood, formerly known as Masonite, is a blow to the shopfitting and furniture industries. For a wide range of reasons, including a protracted illegal strike, the high cost of capital investment and cheaper imports, Evowood is closing its doors, leaving more than 400 people unemployed.
SAIF honours Andrew McEwan

The Southern African Institute of Forestry (SAIF) presented its Dedicated Service Award to Dr Andrew McEwan at its recently held annual general meeting.


During the ceremony, McEwan was thanked for his dedication, enthusiasm, time management, friendly demeanour and love for the institute and the forestry industry. He is responsible for several institute events including the annual photography competition, the SAIF calendar and the monthly newsletter.

McEwan’s passion for the SAIF’s values and building the significant role it plays in the industry led him to spearhead and represent initiatives such as:

- Meeting with stakeholders to draw up the protocol for the SAIF and William C Teie Bursary Fund for a first-year student studying either the National Diploma Forestry or BSc Forest Science.
- Compiling the criteria document for the SAIF Forester of the Year Trophy.
- Representing the institute at meetings with the stakeholders (DAFF, PG Bison, Cape Pine and others) involved in the reversal of plantations in the Western and Southern Cape.
- Representing the institute at the Wood Foundation.
- Compiling the terms and conditions documents to implement a Continuous Professional Leadership (CPL) system for the SAIF.
- Working with Hannes van Zyl to revamp the institute’s website so that it is mobile and user-friendly.
- Compiling the SAIF monthly newsletter.

“Andrew is a good example of a committed council member that is willing to run the extra mile for the Institute. Without council members such as Andrew, the SAIF would not have survived the past 51 years and be such a well-respected organisation. With this award, we want to show Andrew our sincere appreciation for contributing to the success of the SAIF,” says the outgoing president, Hannél Ham.

SAIF Merit Award

Samantha Bush received the SAIF’s merit award for her extensive scientific input to forestry in Southern Africa. She works at the FABI Biocontrol Centre and is substantially contributing to several key biological control projects of forest insect pests.

S.A.S.D.E.A.

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New guide to biological control of pests

Dr Brett Hurley of the Forestry and Agricultural Biotechnology Institute (Fabi) is one of the authors of the new Guide to the Classical Biological Control of Insect Pests in Planted and Natural Forests

The damage done by insect pests to millions of hectares of forests worldwide each year is increasing, and the situation is exacerbated by international trade that facilitates the spread of insect pests and by the impacts of climate change.

Globally, and especially in developing economies, outbreaks of forest pests can have significant consequences for the livelihoods of forest-dependent communities. The Food and Agricultural Organisation (FAO) views the threat posed by forest insect pests seriously and has made pest management a critical element of target 15.8 of the Sustainable Development Goal 15: Life on Land.

The goal is to introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species by 2020. The FAO’s ongoing programme on integrated pest management supports the achievement of this target, including through classical biological control.

Classical biological control is a well-tried, cost-effective approach to the management of invasive forest pests. It involves the importing of “natural enemies” like parasitoids, predators and pathogens of non-native pests from their countries of origin to establish permanent, self-sustaining populations capable of sustainably reducing pest populations below damaging levels.

A great deal of knowledge on this method of control is available. This publication, which was written by a team of experts, distils the information in a clear and concise guide aimed at helping forest-health practitioners and forest managers to implement successful Classical biological control programmes.

It provides general theory and practical guidelines, explains the “why” and “how” of conventional biological control in forestry and addresses the potential risks associated with such programmes.

It features 11 case studies of successful efforts worldwide to implement biological control.

The authors of the guide are: Dr Marc Kenis, Centre for Agriculture and Biosciences International, Switzerland; Dr Brett Hurley, Forestry and Agricultural Biotechnology Institute, University of Pretoria, Dr Fernanda Colombari, University of Padova, Italy; Dr Simon Lawson, University of the Sunshine Coast, Australia; Prof Carlos Wiikpen, São Paulo State University, Brazil; Dr Jianghua Sun, Institute of Zoology, Chinese Academy of Sciences; Dr Ronald Weeks, US Department of Agriculture and Dr Shiroma Sathyapala, FAO, Rome.
TOUGH TOOLS WHEN YOU NEED THEM MOST

STIHL tools have been tried and tested and have proven they are up to the most demanding applications. They are resilient, easy to operate and cost-efficient. For planting, the new BT 230 auger is sturdy yet lightweight at 10.9 kg, and was designed for emerging markets across the world. This simple 40 cc machine is very compact when the auger is not fitted to the support frame, ensuring mobility and convenience as a wide range of STIHL augers can be mounted to the frame, thanks to the 20.0 mm standard connection. Another tough performer is the WP 230 water pump, which delivers a high vertical and horizontal pumping capacity, up to 250 litres a minute. The 1.55 kW FS 235 brushcutter has a professional-grade performance and a lightweight design for comfortable day-long use. Its weight isn’t the only feature that is light about this durable model – it has been tested in the field with a low average fuel consumption estimated at just half a litre per hour. These three tools can make a significant difference when there’s a challenging job to be done. STIHL power tools - tough enough for any task.

Like any premium item, STIHL products are only available at specialised dealers nationwide, for expert advice and superior after-sales service.

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NCT tree farmers awards

Congratulations to Mthandeni Ntanzi and Hendrik Klopper for winning their categories in the annual NCT tree farmers awards.

The small-scale grower category prize went to Ntanzi for the high standard of his farming operations and Klopper, a BSc Forestry graduate, earned the commercial grower category award.

NCT recognises members for sound and sustainable management practices in tree farming that includes sound conservation and silviculture practices. Each winner received the coveted trophy and a Stihl chainsaw sponsored by Stihl Pietermaritzburg & PMB Power Products.

Zander Myburg is the Biotechnologist of the Year

Prof Zander Myburg, research leader of the Forest Molecular Genetics (FMG) Research Group at the University of Pretoria was awarded the prestigious Biotechnologist of the Year Award by the Institute of Forest Biosciences (IFB).

Myburg received the award at the gala dinner of the International Union of Forest Research Organisations (IUFRO) Tree Biotechnology Meeting held in June in Raleigh, North Carolina in the USA.

The award is presented to an individual who best exemplifies environmentally and socially responsible forest biotechnology. Candidates should also work diligently to promote science, dialogue, and stewardship in this field.

The meeting is the premier biennial international event focused on molecular biology, genetics, genomics and propagation technologies for forest trees. It is an opportunity for the international community of researchers in forest tree biotechnology to gather to learn of new methods, hear about research advances, and consider how these tools and discoveries can be used to help forests adjust to the changing world.

Myburg received the award from Susan McCord from IFS and Prof Ron Sederoff from North Carolina State University. Sederoff is Myburg’s former PhD supervisor and a previous winner of the Forest Biotechnologist Award. The FMG Research Group is based at the University of Pretoria’s Department of Genetics and is affiliated with the Forestry and Agricultural Biotechnology Institute (FABI). The group focuses on the genetic control of wood development in fast-growing plantation trees.

The research group works closely with South African forestry companies to develop capacity and resources for the application of tree biotechnology in operational tree improvement programmes.
Evowood in liquidation

The Companies and Intellectual Property Commission (CIPC) has placed the engineered wood producer Evowood, formerly known as Masonite, in voluntary liquidation resulting in the loss of 460 permanent and temporary jobs.

Nhlangulela says that at a time when the government is calling for industrialisation and job creation, it is particularly sad to see the demise of one of the largest hardboard mills in the southern hemisphere. Evowood was one of the biggest employers in the Estcourt area.

He explains that Evowood never really recovered from the substantial losses incurred during the strike and, despite having brought in international engineers to attempt to repair equipment that was old and regularly breaking down, it was unable to ensure continuity of supply.

A total of R78-million was spent attempting to repair and maintain machinery and rebuild the mill; however, much of the equipment is old and unreliable. By June 2018, this had cut capacity by 50 per cent. This year, a timber shortage due to excessive rain and further plant breakdowns compounded liquidity challenges.

Employee safety has always been the priority of the shareholders, and without a massive cash injection into the upgrade of machinery, the group felt it was no longer safe to continue operating. Nhlangulela says that staff are the preferent creditors in the winding up of the company, and the Master of the High Court will appoint provisional liquidators in due course.

Nhlangulela says that the economic turbulence in the country also impacted greatly on the construction industry, which accounts for the bulk of the company’s business. These factors resulted in the withdrawal of the international funding that was urgently needed by the struggling business.

However, in February 2017, the company endured a protracted illegal strike, which not only led to lost production time and extensive damage to the plant but also resulted in uncertainty among Evowood’s customers.

“This uncertainty and the time needed to rebuild the confidence of our customers who were looking for alternative suppliers provided an opportunity for cheap imports to flood the South African market. These factors prolonged the turnaround phase,” he explains.

Nhlangulela says that the economic turbulence in the country also impacted greatly on the construction industry, which accounts for the bulk of the company’s business. These factors resulted in the withdrawal of the international funding that was urgently needed by the struggling business.

Operating any business in the current South African climate is challenging, particularly when there are low levels of global confidence, and there is no protection for manufacturing companies against import competition.
New features for Weinig’s finger-jointing systems

Weinig has refined and enhanced its finger-jointing technology to make residual wood processing and optimisation easy and profitable.

The Turbo-S 1000 can now achieve an output of up to 91m/min thanks to the patented milling combination with fully automated charging that is used to feed the machine. The new operating cost-reduction features include:

- The automatic GlueEye Vision control system that ensures a high-quality end product through the perfect connection of the finger-joints.
- Automated chip removal or the use of a Trimsaver that increases wood yield.
- Fully automated charging.
- A tool wear indicator.
- Adaptable belt speeds.
- The newly developed dividing saws located behind the press output and in front of the stacking systems.

Weinig launched two new versions of the PowerJoint series, the PowerJoint 12KVH and PowerJoint 18 models. The top-of-the-line PowerJoint 18 can run at 18 cycles per minute and produces more than 17000 linear meters of vertically finger-jointed construction timber per shift. In conjunction with an extrusion press, the PowerJoint 18 can press several joints at the same time.

The new PowerJoint 12 for larger cross-sections is quicker and can achieve up to 12 cycles per minute. The clamping pattern in the milling machine and press have not changed, and the result is a product with no need for offsetting.

The local supplier of Weinig’s sawmilling equipment, Nukor says the press of the improved system can apply a force of 40 metric tons to the connection.

Both new products feature the ProLam 4.0 production computer for networked production. The finger-jointing lines can be tailored to various customer requirements thanks to the wide range of installation options.
Peterson introduces its horizontal grinder

Peterson, the international manufacturer of wood grinding and chipping machines, has launched its new heavy-duty and mobile 1700D horizontal grinder.

Jody Volner, president of Peterson Pacific Corp, says that although the new 1700D is smaller and lighter than the company’s other grinders, it “packs impressive performance”.

“The 1700D is ideal for small mulch, compost, or sawmill and furniture factory waste, pallet grinding operations, and municipalities looking for a smaller machine, but still needing excellent throughput for a grinder of this size,” explains Volner. The standard 1700D’s large feed opening measures 137cm x 69cm. When boosted by Peterson’s high-lift feed roll, the feed opening’s maximum lift of 105cm can tackle large feedstock. The grinder has a Caterpillar Tier IV C9.3, 433kW engine, or an optional, export-only C9 Tier III, 261kW engine. At 18,597 kg, it is the lightest of Peterson’s grinder series and is easily transportable.

Peterson’s adaptive control system has a fully adjustable feed system optimised for a wide range of materials. The 1700D control panel’s large display provides the operator with complete engine and system parameters to simplify set-up and efficiently operate the unit.

The 1700D features Peterson’s patented impact release system that protects the machine against un-grindable materials, a feature unique to Peterson horizontal grinders. The grinder has a quick-change multiple grate system that makes it possible to remove grates through an access door on the sidewall and easy to customise grate configurations. Volner says the Peterson patented up-turn rotor, heavy-duty bits and robust anvil gives the 1700D an exceptional wear-life and accurate product sizing.

The 1700D horizontal grinder is Peterson+ enabled, which is the new remote monitoring solution that provides machine owners with access to real-time and historical data of their machine’s performance and location.

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Sawmilling systems from USNR

The USNR lumber grading systems offer complete and highly accurate modular automated grading solutions for dry mills

This month we are focusing on the Lineal High Grader (LHG) system. The LHG uses several USNR DataFusion technologies to scan each board in a single pass. It compares and verifies the data from these technologies to achieve a highly accurate decision. The grade solution is sprayed on the top of the board, and the board is tracked through the system using an ID that is printed on the bottom of the board as it exits the LHG.

The technologies include x-rays for density evaluation, lasers for geometric profile measurements, and four-sided multi-channel vision to detect visual characteristics. The combination of these methods allows the classification and verification of the following lumber defects:

- Knots: sound, unsound, bark encased
- Stain: blue stain, heart stain
- Splits and shake
- Cambium, shallow face wane, steep edge wane
- Planed bark as wane
- Decay: rot with or without voids, white spec, and others
- Pith location down the entire length of the piece

The modular design of the LHG allows sawmills to add to the base model so that the system grows step-by-step to meet the mill’s requirements. The LHG frame is designed to be compact and accessible, and once installed, it will receive additional modules without structural modifications and interruption to production.

The base unit precisely determines all geometric features of a board including size, wane, skip, holes, crook, bow and twist.


USNR is the world’s largest, most comprehensive supplier of equipment and technologies for the wood processing industry. The 2015 acquisition of Söderhamn Eriksson expanded our portfolio to include high-quality European-style log lines, edger systems, and Cambio debarkers. We supply systems, service, and support around the globe. Find out if we have a solution that’s right for you.
This allows graders to focus on the visual defects longer, which improves the quality of their decision and significantly reduces fatigue.

Graders can agree with or downgrade the solution based on their visual data. They can enter lumber line and non-lumber line grades and trims, or choose an optional middle saw to aid in cut-in-two evaluation. The optimiser determines the optimal grade and trim decision based on the board profile data gathered by the scanner, the grader’s inputs, and product set-up values entered by mill personnel.

The LHG uses x-ray and laser and vision technologies.

The Machine stress rated lumber (MSR) grading and machine evaluated lumber (MEL) grading modules enhance the system by packaging x-ray technology into the base unit. This feature allows the LHG to predict strength and moisture content, enabling the mill to market high-value MSR/MEL lumber.

The E-Valuator enhances the MSR module. E-Valuator uses the non-contact deflection measurement, together with the density data gathered from x-rays, to produce highly correlated Modulus of Elasticity (MOE) predictions.

E-Valuator can also use the four-face multi-spectral scanners to add grain angle and moisture data collected down the entire length of the board, to improve the stiffness prediction algorithms. The system has been in use since 2005 and USNR says all users comment on its accuracy and consistency.

The vision module combines four-face, multi-spectral vision information with density data from the x-ray subsystem. Through DataFusion, all the data is evaluated to extract the defect information specified by the mill’s product parameters.

The vision module was developed with USNR’s industry partners and is based on years of proven, patented x-ray grading technology used in the company’s other optimisation products. The vision module is available for all softwood species types.

Automated grading systems have become incredibly accurate, but still, require quality control checks to ensure the system is highly tuned. Check graders need to know what grade the optimiser has assigned to a piece so they can assess it for accuracy and make any parameter changes if necessary.

The Grade Projector is a simple and effective alternative to traditional paint spray or complicated lighting systems. Boards are not marked in any way, so the freshly planed lumber remains clean and mark-free. The grade is projected onto each board using symbols customised by the customer. The grader can see at a glance the cutting patterns assigned by the system. Multiple grades can be projected onto the material to display multi-grade cut-in-two decisions.

Projections are highly accurate and able to track material on smooth or lugged chain conveyors. Skewed material is detected and adjusted.

Contact Nukor Sawmilling to find out more about USNR’s board grading systems.

New woodchip conveying system

Takraf Africa is handing over a complete woodchip conveying system as part of the expansion investments at Sappi’s Saiccor Mill in KwaZulu-Natal

The Saiccor Mill produces elemental chlorine free (ECF) dissolving wood pulp, mostly for the export market. The wood yard investments will result in cost, quality, environmental and efficiency benefits to the Mill while increasing its tons per year output.

The fast track contract covered the design, engineering, installation and commissioning of 24 trough conveyors, three Redler en-masse chain conveyors, transfer towers and related systems.

New and unique features

Takraf Africa conveyors are integrated into existing and new lines to handle the increased production made possible by the expansion. The conveyor system consists of three stockpiles fed by shuttle conveyors.

With the new system, woodchips are conveyed from the existing and new chipping lines to the relevant stockpile and then, using reclaim and associated conveyors, carried to existing infeed digester conveyors.

Richard Späth, general manager technologies at Takraf Africa says several new and unique features were designed and incorporated into the conveying package, including reversible belts to ensure that material could be conveyed to stockpiles from different chipping lines.

All the chutes were designed and assessed using discrete element method (DEM) technology because woodchips tend to become airborne when they reach certain velocities. Stockpile stacking is conducted by automated zone control using a combination of instruments and sensors to ensure the equal spreading of the different wood species.

Various bypass systems are provided, including one from the stacking route to the reclaim conveyors if a reclaim machine is undergoing maintenance or unplanned downtime. The bypass conveyors are based on a self-supported design requiring no intermediate trestle support. A bypass plough mechanism diverts material temporarily from the existing chipping line to a new conveyor.

A set of Redler conveyors transport fines generated by the screening system and this assists in dust control. “The Redler conveyors were selected for the benefits they offer, including their ability to fit in with the current layout of the screening building and the space constraints within the plant,” explains Späth.
The Redler conveyor boasts multiple discharges that facilitates the building of a cone-shell type stockpile and assists in loading a truck evenly.

Another uncommon feature designed by Takraf Africa is the four-conveyor walk-in type gallery. Some of the conveyor gantries span between 45m and 50m due to space constraints and existing infrastructure.

Fast-tracked

Since this was a brownfield project, the system was installed in an operational plant where certain tie-ins had to be completed during limited shutdown windows.

The fast-track nature of the contract called for precise and tight planning of the in-house engineering, which was complicated by the challenges of interfacing with new and existing services on the plant. To best mitigate associated risk with such a complex project, Takraf Africa split the detailing and manufacturing of steelwork amongst various fabricators.

“In total, approximately 1,700 tons of structural steel was used to design, make and install the system within a 12-month project duration. This period included mechanical installation, commissioning and handover, and did not compromise safety and the quality of the equipment,” says Späth.

Continuing demand

This recent contract highlights the continuing demand from a wide range of industries, from the mineral processing to biomass sectors, for Takraf Africa’s material handling expertise, notes Späth.

“We offer the best of global technologies that are tailored to operate efficiently in local conditions, and includes products specifically manufactured for the African market. This has enabled us to continuously advance our technology offering and remain ahead of the curve,” says Späth.

Takraf Africa is the exclusive license holder in Southern Africa of the trade-marked Redler range of equipment and has supplied more than 5000 Redler en-masse conveyors and elevators throughout Southern Africa over the past 40 plus years.

“Our association with the industrial sector stretches way back into the past century when, as part of the Bateman group before it was acquired by Tenova in 2012 and integrated into Tenova TAKRAF, it established a firm foothold both in the mining, the power generation and the FMCG sectors, amongst others,” concludes Späth.

“Such long-term business relationships underscore Takraf Africa’s ability to service its products over their complete product lifecycle, even installations from more than three decades ago.”
Modular scanning, ripping and cutting systems from Weinig

No matter the size of the business, the profitability of manufacturing with wood is decided during the initial break-out process when optimised ripping and cross-cutting takes place.

Weinig’s solid wood division showed off its new ranges of scanner, band saw, and break-out technologies at Ligna, the seminal tradeshow that was held in Germany in May.

CombiScan series

Wood yield significantly increases through scanner technology. Weinig’s CombiScan Sense is a scanner that provides four-sided wood defect detection for larger companies that want to minimise their waste. Compared to the generation that it is replacing, the sensor technology and detection accuracy are significantly improved.

The space-saving low-power X-ray module and the laser and colour cameras are new features of the CombiScan Sense. The scanner has a dot laser that detects the fibre orientation, dual-scatter technology and two-sided detection of oblique cracks. The Roughness+ setting can be used to identify unplaned areas, and Random Width Module is also available.

The CombiScan Sense is designed as a modular system and can be upgraded to meet expansion needs through the addition of sensors.

The CombiScan Evo R200 is Weinig’s tried-and-trusted scanner for two dimensional (2D) ripping optimisation. In 2D the optimisation programme takes into account both the ripping and the cross-cutting procedures. This significantly increases the value and yield of the entire break-out process.

Dual-scatter technology allows accurate defect detection and short scanning times. Automatic camera positioning improves the user interface and makes the CombiScan Evo R200 easier to handle, plus it speeds up configuration and expands the options for collecting statistics and data.

By adding more sensors, the scanner can be upgraded to meet the manufacturer’s future requirements.

Band resaws

The VarioSplit 900 band resaw is designed to meet the needs of small manufacturers. With the new thin-cut setup, lamellae of <5mm are cut. If required, the flexible saw can reliably rip material with a cutting height of up to 370mm. Thanks to the
adjustable stop and the various pressure rollers, oblique cuts and diagonal cuts can be made without any problems.

The new, powerful ProfiSplit 1100 for industrial applications has a 37kW motor and is designed for cutting heights of up to 400mm. Special feed rollers are used for the saw, and these enable the machine to achieve feed speeds of up to 80m/min. The option to adjust the feed unit via a ball screw spindle ensures maximum precision.

Nukor is the Weinig agent for its sawmilling ranges and says the combination of centre and angled cut functions open up new avenues of application.

The applications include using the ProfiSplit 1100 as a stand-alone machine or incorporated into a fully mechanised autonomous production system. Nukor says the saw is available as a single or twin version.

Optimising cross-cut saw

The Weinig OptiCut 550 Quantum raises the bar for fully-automated cross-cutting and optimisation. The feed speed of the saw has increased to up to 550m/min, and precise positioning at full speed and re-acceleration can be done at up to 50m/s.

The VarioStroke saw stroke system delivers short cutting times for all cross-sections within the maximum cutting range. This ensures increased machine performance and cutting quality. Waste handling has been completely overhauled, and optimised sorting now takes place. The OptiStat tool continuously evaluates production data to identify the potential for optimisation in the production process.
The company is owned and operated by Hasan Mshawrab, a young Ivorian of Lebanese descent. Mshawrab’s business initially exported round logs from Ivory Coast without adding any value to the wood. When the Ivorian government decided to impose restrictions on log exports, he had to review his business model.

The restrictions dried up the log supplies, and Mshawrab realised that he could make more money if he added value to the timber resources.

“The Ivory Coast, like many other African countries, loses money with log exports. If decided that if I could produce sawn timber and then manufacture furniture from it, I could dictate the prices I want, instead of making do with the low prices that I got for logs.

“I want to help improve our economy, add value to our resources and create job opportunities for young Ivorian’s like me to improve our lives and create a better future for our families and others.

“I also know that people will not protect forests if they have no value. If I can build a successful business using Ivorian timber, others like me will treasure forests more and protect them,” Mshawrab says.
Building a business with Wood-Mizer

The first step to realising his dream of an integrated timber production company saw Mshawrab investing in sawmilling and blade maintenance equipment from Wood-Mizer.

STE now has four Wood-Mizer LX100 saws that are used to produce sawn timber from the sustainably harvested teak logs supplied by the Ivory Coast’s Timber Management Agency, Sodefor.

STE’s two-head Wood-Mizer HR500 resaw, and EG300 edger cut the sideboards into valuable timber instead of throwing them away. “We used to waste a lot of timber, so with our recovery equipment from Wood-Mizer, we now have more timber that we can sell,” Mshawrab says.

Sawn timber from the sawmill and bespoke furniture items from STE’s manufacturing arm are exported to markets in Asia, Europe and the Middle East. It also supplies kitchen and bedroom furniture and doors to local markets.

Saw maintenance equipment from Wood-Mizer allows STE to re-sharpen and set their bandsaw blades. “Our saw sharpening division is essential,” Mshawrab says. “We no longer have to rely on outside suppliers that are not reliable and can now control the quality of the process and the costs.”

STE’s showroom facilities in the Ivory Coast’s capital Abidjan, adds further value to the company’s operations with bespoke furniture items sold directly to customers from across the country. The facility also doubles as STE’s design and admin headquarters.

Economic growth

Africa has tremendous potential to harness its timber assets for growth. Cheap log exports generate a fraction of the potential value that the continent’s timber resources hold and that can fuel future economic growth. It is also little or no incentive to protect a resource that is not considered valuable.

Sawmillers, like Mshawrab, represent a new generation who understand the link between timber resources, economic growth and the necessity for sustainable management of the resource. “When we keep the timber in Africa, unlock the full value that it holds for the benefit of Africa, and preserve the resource, then we have a business for many generations, Mshawrab comments.”

STE has up to 50 permanent and 20 part-time employees.
Nukor’s tour leader, Cobus Richter, said the objective is to visit smaller, family-owned wood processing companies that use uncomplicated yet highly practical technologies to add value to their logs.

**La Scierie Decker Freres**
The first stop in France was at the Decker Brothers sawmill in Bertrambois, a small town of Meurthe-et-Moselle between Nancy and Strasbourg. The business started in 1948, and today it specializes in converting fir and spruce sawlogs. The president of the company is Manuel Decker, who took over from his father in 1997, and the managing director is Manuel’s cousin Patrick Decker.

The Nukor group observed the robust Linck merchandising log yard installed three years ago before entering the mill to view the Linck merry-go-round profiling line and the new EWD Optimes optimizing edger and Springer stacking and sorting systems. The mill’s annual intake is 100,000 cubic metres.

**La Scierie Feidt**
The next stop was Feidt sawmill established by Jacques Feidt in 1900 in Molsheim. The third generation joined the company in 2001 when Bernard Feidt, the CEO since 1973, brought his sons Christian and Matthieu into the business.

The state-of-the-art mill manufactures more than 120 different types of pallets. It has gone through many changes over...
the years and currently employs 20 people on two shifts to produce more than one million pallets a year.

It has a production line dedicated to customised pallets and a second, high-capacity line for standard pallets.

The fully automated high-capacity process consists of a Linck merry-go-round profiling line, EWD optimising edger and a Springer stacking and sorting system.

**Linck in Oberkirch**

Richter said no Nukor tour would be complete without a visit to Germany’s legendary Black Forest and the Linck Holzverarbeitungstechnik factory in Oberkirch.

Linck is the largest European manufacturer of sawmilling equipment, and the visitors were awed by its size and the attention to detail on the production lines. Nukor is Linck’s preferred supplier in South Africa and offers a wide range of the company’s process control and automation solutions for processing every size diameter of unsorted logs. It is well known for its log yard equipment, profiling, chipping, sawing, mechanisation systems and reducer technologies.

**Friedrich Rothmund Säge und Hobelwerke**

The next sawmill on the list was the Rothmund sawmill in Klettgau on the border of Germany and Switzerland. Friedrich Rothmund Snr started the company in 1929, and it has been
led by the Rothmund family for three generations, with the fourth generation now in the starting blocks.

Rothmund’s log intake is made up of spruce, pine, fir, larch and Douglas fir and it supplies a range of structural and home improvement markets.

In 2001 it launched a glulam factory for structural timber and laminated beams. In 2009 Rothmund invested in a Weinig Dimter cross-cut system with scanner and Oest glue application units to produce finger-jointed materials. In 2012 the Rothmunds embarked on a programme to modernise the wetmill and installed a Linck merry-go-round and reducing circular sawing line complemented by a waste disposal and screening system from Bruks.
The Pfeifer Group
Back on the road and the next stop was the Pfeifer Group’s head office in the Tyrolean town of Imst in Austria where the visitors were joined by Weinig Grecon’s project manager Frank Medicus and Dimter’s sales manager Peter Braun.

Barbara Pfeifer’s husband died in the war in 1945 leaving her to support their family of three children. In 1948, despite criticism from a male-dominated industry, she founded a custom-cutting sawmill. Today the third generation of the Pfeifer family is at the helm of Barbara’s legacy, and the company employs 2000 people at two sites in Austria, four in Germany and two in the Czech Republic. It produces shutter board, pallet blocks, sawn timber, wood pellets, formwork beams and glulam products.

Medicus and Braun took the visitors around Pfeifer’s two glulam factories in Imst and explained how the Grecon Turbo-S finger jointing machines and Dimter Opticut 450 Quantum systems operate.

La Scierie Zahnd Industrie du Bois
The final stop was at Zahnd sawmill, the largest mill in French-speaking Switzerland and the second largest in the country. Arthur Zahnd established the mill in 1904, and today his three great-grandchildren continue the work of producing structural timber, glulam boards, formwork boards, slats and brandering. Zahnd sawmill’s present annual capacity is 140000 cubic metres of sawn wood and it has set a target of 200 000 cubic meters by 2025.

The South Africans examined the Linck merry-go-round profiling line and the Bruks waste management system. The Bruks line includes different sizes of chain conveyors, a drum screen, vibrating conveyors, belt conveyors, gyratory screens, and a DH 400x800 drum chipper.

Richter says the tour was a success and Nukor and its suppliers are already planning the next one in 2021.
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An optimally run treatment plant is an important part of the business operation and can only be achieved if it is professionally maintained. Therefore, we view our technical support as an opportunity to differentiate our products and services and to ensure that the tangible benefits of Tanalith and Vacsol preservatives are felt in our customer's businesses,” says JJ du Plessis, senior business manager of Lonza Wood Protection South Africa.

The technical support is achieved by providing a full scope of engineering services, from project management for upgrades and new plant installations right through to the commissioning that involves plant inspections according to SANS 10005 specifications and pressure certification consultation as per SANS 347.

The maintenance service includes preventative maintenance schedules and sourcing of spare parts for treatment plants.

**Eastern Cape**

Recently Lonza successfully installed a Tanalith C treatment plant to improve the production and growth of an Eastern Cape customer’s business.

“This project presented the challenge of space constraints for the location for the new treatment plant. Our engineering team made the necessary adjustments and modifications for a more compact and tailormade solution, and a custom size vessel was manufactured and installed within a short turnaround time,” explains Du Plessis.

**Kenya**

Lonza is also actively engaged at the Komaza plant, which is the first Tanalised wood preservative treatment plant along the Kenyan coast. The plant was installed last year to produce quality treated poles.

“We recently returned from a site visit where we conducted a technical inspection to ensure that the treatment plant is running at an optimal level and thereby yielding the operational cost-saving benefits for Komaza. Refresher training sessions on preventative maintenance took place with their wood scientist, plant operators and management.

This is part of our ongoing after-sales service to our customers,” explains Du Plessis.

**Limpopo**

Tzaneng Treated Timbers is a family-owned business that was established in 2001, and today Riaan du Plessis is holding the reigns. The company is based in Tzaneen in Limpopo and is recognised as a leading supplier to the Sub-Saharan utility pole market. When Riaan identified an increasing demand in the local and export markets for Tanalised C wood preservative, he called on Lonza’s engineering proficiency in the latest design and requirements for a project of this nature.

“Lonza’s proven track record in the design and installation of treatment plants is a drawcard in partnering with us, explains Riaan. Their knowledge and expertise are of an exceptionally high standard and quality, which has given us peace of mind and confidence in their product.”

JJ du Plessis says Lonza’s engineers have made it their priority to ensure that customers benefit from full-service support for them to prosper in the wood treatment industry. “This commitment forms part of Lonza’s dedication to supporting the growth and development of the South and East African treated timber industries.”
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Suppliers of structural timber urged to comply

The Institute for Timber Construction South Africa (ITC-SA) urges all suppliers of structural timber to comply with the obligatory quality standards set by local accreditation bodies.

The institute is the South African timber engineering industry’s professional body. Amanda Obbes, ITC-SA’s general manager, says the industry is concerned about the volumes of uncertified structural timber that is available.

“We encourage our members to continue producing and using high standards of structural timber products. We ask everyone to promote the use of structural timber that is certified to be compliant with set standards,” says Obbes.

“It is critical for standards to be maintained and that all timber produced and destined for the local structural market be compliant. Domestic and international manufacturers of structural timber destined for the South African market must be certified by a South African-based ISO17065 accredited product certification body, which is also applicable in Swaziland and Zimbabwe.

There are only two accreditation bodies in South Africa:
- The South African Bureau of Standards (SABS) and
- The South African Technical Auditing Services (SATAS).

Obbes says ITC-SA’s role as a professional body, is to strive to create and maintain the highest standards in the engineered timber construction industry. “We do this by monitoring the membership, continuously improving standards, promoting and marketing engineered timber structures, and by overseeing the professional training and development of our members.

The Institute was established 45 years ago to self-regulate the engineered timber structure industry and to provide design, manufacturing, erection, inspection and certification assistance to ensure that its members comply with all legislation and standards.

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**THINK LOGS AND LUMBER, THINK MERNESKY TIMBER**
The polluter must pay

Tax paying companies that emit greenhouse gasses (GHG) above specified threshold limits will be liable for an additional tax, warns the South African Wood Preservers Association (Sawpa).

The Carbon Tax Act 15 of 2019 came into effect in June and imposes a tax on GHG emitters that exceed specified threshold limits given in the schedules of the act and the national GHG emission reporting regulations.

A greenhouse gas is any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which ultimately leads to global warming.

Although the tax targets the more significant emitters of GHG from burning or combusting fossil fuels such as coal for energy generation, it does not exclude the burning of biomass and wood. The burning of biomass and wood does, however, emit significantly lower GHG.

The specified threshold limit for combustion devices such as boilers, including heat generators and exchangers, is a combined designed installed capacity equal to or above 10MW.

According to the SA Wood Preservers Association (Sawpa) most production facilities of preservative-treated timber that generate heat, for example, creosote treatment plants will be significantly below the 10MW threshold limit and the Carbon Tax will not apply to them. Sawpa warns, however, that larger treatment plants that kiln dry transmission poles may exceed the threshold, as will many sawmills due to their kiln drying processes.

For creosote treatment plants and sawmills where the combined designed, installed capacity is equal to or exceeds the threshold value, the GHG emissions must be reported on the National Air Emission Information System platform (NAEIS) of the DEA. The tax is calculated at R120/ton of GHG emissions minus a 60% basic discount/allowance for the first phase starting from 1 June 2019 and ending 31 December 2022. There are additional deductions/allowances available for companies and these could increase the total discount/allowance to 95%.

Sawpa members can contact the organisation for copies of the Carbon Tax Act and the national GHG emission reporting regulations.

Taxpayers who do not currently measure their CO2e emissions or who do not have their emission calculations independently verified, will need to introduce systems to determine whether their emissions fall below the prescribed thresholds.
The Group supports the local forestry industry in its endeavours to apply sustainable business practices and ethics. South Africa has a unique and beautiful landscape, and the commercial tree farming areas enjoy warm summers, mild winters, fertile soils and ample rainfall.

The South African forestry and sawmilling industries have invested over 100 years in scientific and applied research and development programmes to plant the right species of genetically engineered seedlings in the right area to meet the needs of a discerning marketplace. The Foresta Timber Group relies on these custodians of our resources to supply us with the raw materials to produce our world-class structural timber products.

The Foresta Timber Group endeavours to source the bulk of their local timber from Forest Stewardship Council (FSC) Certified forests and sawmills. The Foresta Timber Group plays an essential role in the value chain that strives to balance commercial forestry interests with forest ecology and the well-being of employees and local communities.

We stock pine timber in various grades that we either supply wholesale to the trade or the public through our on-site factory store. Our solid wood and finger-jointed timber are graded according to stringent criteria before it can meet the SANS 1783 standard for softwood timber. Foresta Drum Manufacturing has permission to use the SATAS (South African Technical Auditing Services) logo on its solid and finger-jointed structural pine timber.

Foresta Timber and Board and Foresta Drum Manufacturing are collectively known as The Foresta Timber Group and was established 25 years ago in Alrode, Alberton which is a town close to Johannesburg in Gauteng

Peace of mind when you use structural timber from The Foresta Timber Group
This standard ensures uniformity of quality, which means that the wood can be used as structural timber, for brandering and battens or industrial purposes. Timber used in roof trusses must be graded 5 [S5], 7 [S7] or higher and Foresta Drum Manufacturing’s structural timber bears the grading mark in red ink on the face of the timber at regular intervals.

We are audited annually to ensure that the structural timber maintains and complies with the standard. This gives all stakeholders the peace of mind that they are purchasing timber products of the highest quality.

Timber which fails the grade is labelled as Black Cross and is NOT recommended for roof trusses. Black Cross is extensively used in the informal building sector because it is substantially less expensive than certified structural timber.

Black Cross is often marketed as accredited structural timber, but it is only suitable for non-structural work such as formwork, general building work, shelving cleats, and dog kennels.

Customer convenience and competitive pricing paired with expert knowledge, are the driving force that has ensured The Foresta Timber Group’s position as one of Gauteng’s largest wholesalers of timber and related products.

We manufacture and import a variety of well-priced branded products, such as skirting, flooring, ceiling, and decking and half logs. Engineered wood products in the form of plywood, chipboard and MDF are stocked in a range of sizes.

Custom products can be made to order, and we endeavour to use the best quality pine and saligna timber to manufacture our products to stringent quality standards. Our customers include the trade and the wholesale market of builders, truck body fabricators, roof truss manufacturers and building contractors. The on-site factory shop enjoys tremendous support from smaller contractors and the DIY market.

In the timber industry price and quality go hand in hand, and that is why it is crucial to deal with a reputable timber supplier, such as The Foresta Timber Group.
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Powermat and Hydromat moulders at Ligna

The German technologies manufacturer, Weinig, once again used Ligna as a platform to demonstrate how its range of moulders can expand the variety of products and profiles offered by woodworking companies.

**Powermat 3000 moulder**

Weinig says the Powermat 3000 is currently unmatched in its class in terms of machine performance and spindle technology. Depending on the application, the machine can operate at speeds of up to 12000 RPM. The PowerLock tool holders with hybrid ball bearings and jointers ensure an excellent multi-blade finish at feed-speeds up to 100m/min.

The straight and profile jointers follow the radial adjustment of the spindle, which makes manual repositioning unnecessary. There are several patent-pending features on the Powermat 3000. One example is the new temperature monitoring system that measures the temperature at the spindle bearings. When a defined threshold value is exceeded, the machine automatically switches off.

With the Comfort Set operating concept and other components such as PowerLock and CNC-controlled axes and guide elements, the Powermat 3000 has options that make materials managing significantly easier and provide a degree of flexibility that is unusual in this machine class.

**Powermat 2400-3D**

Be it conical, curved or 3D decor, Weinig’s Powermat 2400-3D can tackle demanding applications with ease. The moulder is equipped with Alphacam software, which allows the design of three-dimensional workpieces and the creation of a CNC program. Two of the upper spindles are used for axial and radial 3D structuring. Controlled spindles from the right and left produce workpieces with a wide variety of contours and small radii. Component recognition ensures that high precision and performance is achieved with machining through-feed.

Additional features are the opportunity to simulate machining in advance, and the contour milling spindles have the new temperature monitoring system.

**Hydromat 3000**

The Hydromat 3000 is Weinig’s robust powerhouse for pre-planing or profiling work. The outboard bearings and tools with HydroLock technology make tool changing and setting operations quick and easy.

The 100m/min version of the Hydromat 3000 features large feed rollers with a diameter of 170mm. The machine is designed for integration into other systems and connection to peripheral devices such as a mechanisation system and central system control.

**Hydromat 4300**

The quickest machine in the Weinig Hydromat series is the Hydromat 4300 that can perform planing and profiling operations with feed speeds up to 300m/min.

A distinguishing feature of this high-speed machine is the feed system with individual drives as well as feed and table rollers, each with a diameter of 250mm. The new Weinig machine control (WMC) system allows the user to view all relevant production data on a central dashboard. The Weinig range of solid wood moulders and accessories are available from Austro.
Weinig adds to its joinery machines range

Well-known for its solid wood processing machines and systems, Weinig has introduced the Conturex Artis window frame-making machine for small companies and added powerful features to its automated Vario S system.

Weinig says the Conturex Artis aims to maintain and improve the competitiveness of small joinery factories in a rapidly changing environment. The Artis range starts from seven window units per shift and Weinig says it is a perfect entry-level machine.

The Artis has a four-axis main spindle and can be equipped with an optional universal spindle. In its standard configuration, the machine is designed for lengths from 175mm to 3500mm and can process lengths up to 4500mm.

The tool magazine with a mandrel length of 290mm and a 50-slot tool holder offers sufficient capacity for flexible and economic order processing. A vital feature of the Artis is the PowerGrip RePos easy clamping table. The patent-pending re-clamping table enables variable component clamping and automatic movement of the workpieces in the machine. The workpieces remain clamped throughout the manufacturing process, thus achieving maximum precision.

A new feature for the fully automated Conturex Vario S is the PowerGrip Motion 2D/3D folding clamp system. Weinig says it provides significantly more flexibility when producing narrow profile systems and round arches, and when doing partial milling for system construction. The Weinig CAM, SIM and Solid WF software modules can be used to program, simulate and monitor workpieces.

The Vario S allows direct component transfer and has a new working width of up to 330mm. Thanks to the four-table system, the output is significantly increased. A double 24-slot pick-up holder and an external magazine with 90 slots are available in the tooling area.

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Interest in American red oak is increasing in Europe

The American Hardwood Export Council (Ahec) reports that it is beginning to make inroads in the European architectural and furniture manufacturing industries.

The growing interest in their hardwoods saw an unprecedented 27 companies exhibiting under the Ahec umbrella at two pavilions at Interzum in Germany in May this year. The last time the American profile at Europe’s premier furniture production and interior design exhibition was this high was in the 1990s.

David Venables, Ahec’s European director says a key factor in his country’s re-energised interest in Interzum is the dip in demand from America’s biggest hardwood market, China.

“Red oak is America’s most abundant and sustainable hardwood and it is hugely versatile with an appealing, wonderfully warm aesthetic. However, while popular in other markets, it’s been less utilised in Europe,” explains Venables.

“We have some incredibly exciting projects lined up to showcase red oak’s potential this year. It is oak redefined.”

Blushing bar

Ahec displayed the Blushing Bar at Interzum. Initially created for Wallpaper Handmade at this year’s Milan Design Week, British architects Chan+Eayrs designed the bar which was manufactured by the designer-maker, Sebastian Cox. The circular bar measures three meters in diameter and is composed of 10 modules intended for making cocktails, each of which forms a variation of a curved sculpted element.

The Blushing Bar is made from American red oak and was carved to reveal a red stain made by calligraphy ink injected into the large vessels of wood. The red veins accentuate the beautiful grain and reveal the red oaks’ large open pores.

To further highlight red oak’s technical performance and aesthetic, Ahec commissioned Cox to produce furniture for its stand at Interzum. The result was the Rubra collection; a long bar-height table with stools that can be stored underneath it.

Open-grained and porous

“Red oak is an incredibly open-grained porous material,” says Cox, “When you shave a thin slice of it and put it against the light, you get this beautiful dappled effect through the xylem and its distinctly large spring growth.”

Cox says he wanted to cast oak furniture in a new light at Interzum. Instead of heavy and chunky furniture, he designed the range to be rectilinear, light and elegant and ideal for batch production.

“Everything we design is scalable with production in mind,” explains Cox. “American red oak was the perfect material for the brief. The strength to weight ratio meant we could make the proportions of the pieces elegant. It also bends a great deal before breaking, machines beautifully and takes a finish well.”
OAK REDEFINED

AHEC, Adam Markowitz and Marcus Piper collaborated on ‘Oak REDefined’, an installation exploring American red oak from multiple perspectives. Both natural and thermally-modified American red oak was selected for the collaboration with designer and architect, Adam Markowitz and top graphic artist, Marcus Piper, who came together to create a space in which to relax, recharge and reconnect with a thoughtfully designed environment. So vast is the U.S. hardwood forest that all of the 2.75 cubic meters of red oak lumber used to create the installation would be replaced through natural regeneration in just 3.15 seconds.

For more information visit www.americanhardwood.org
"One challenge was its eagerness to absorb glue, but, given a double application, the connections were as strong as in any hardwood. We also used a raw lightly white pigmented oil finish, so it’s near to natural as possible.”

**Green passport**

At Interzum, Ahec highlighted the environmental strengths of the US hardwood resource and presented various tools that make up its green passport that verifies its sustainability.

These include its Life Cycle Assessment (LCA) tool, a satellite imagery-based interactive forest map and its live environmental profile, that details the carbon and broader environmental impacts of US hardwood consignments shipped to any destination worldwide.

Venables says Ahec has a busy calendar ahead as it continues to put the spotlight on American red oak in Europe, Africa, the Middle East and Oceania.

**Houtlander**

Ahec is currently working with Phillip Hollander and Stephen Wilson of Houtlander in Johannesburg. This is one of South Africa's newest and successful crafted furniture studio. Houtlander won the prestigious award for the 'Most Beautiful Object in South Africa' this year for their American white oak Interdependence II bench. They are keen to explore the development of their range to include natural and thermally modified red oak.

“The overall idea is to demonstrate the beauty and versatility of red oak in white oak-dominated markets.

We are highlighting its excellent working properties and the fact that it is the most abundant of the American hardwood species, with two cubic meters growing in the forest every second, and total growth exceeding harvest by 21-million cubic meters each year,” explains Venables.

“Red oak machines just as well as white oak and finishes perhaps better. It bends more easily and takes treatment well for external use. It is also a perfect substitute for species like meranti, because it has similar density, permeability and grain.”
Oak REDefined exhibit wins at Denfair 2019

Oak REDefined, a collaboration between an architect, a graphic artist and the American Hardwood Export Council (Ahec) won the Best Large Stand award at the recently held Denfair 2019 in Melbourne, Australia.

Ahec returned for its fourth consecutive year at Denfair with an in-depth exploration of the physical and emotional properties of timber. American red oak was selected for the alliance between the council and designer and architect, Adam Markowitz and graphic artist, Marcus Piper.

Sydney-based Evostyle manufactured the Oak REDefined installation and used both natural and thermally-modified red oak. It incorporated several different ‘moments’, from a hotdesk to a dedicated relaxation zone to a playable puzzle designed by Marcus Piper in the form of a tangram table.

Luke and Louise Ommundson, the owners of Evostyle say the stand demonstrated how functionality can be fun and...
how natural materials and practicality can balance work environments. “It’s an interesting species for me to focus on because most Australian architects are not even aware of the different species of American oak,” says Markowitz. “There is a difference between American white and red oak, and for me, red oak is a fascinating species because of its porous stain-absorbing attributes that are different from that of white oak. Markowitz says he wanted to create a case study design exploring how timber can be used in various ways within the workplace environment. Designed to consider the details essential to comfort such as subtle curvature on hot-desk edges to reduce strain when typing to slimline cable management solutions obscuring the necessary but visually unappealing technology,

“We were excited to work with Adam because we respect him as a designer and because of the architectural feel of the stand this year. We enjoyed working together and the design evolved based on both design intent and manufacturing possibilities,” explains Luke. “We all agreed the design needed to feel inclusive and approachable so that people would be drawn to the stand and feel comfortable and welcome to stay and do their own thing and learn about red oak. The mutual respect between designer and maker is evident in the final product,” comments Luke.

Ommundson says Australian designers are moving away from the Scandinavian movement of a few years ago and embracing different species that machine well and have the other properties valued in a timber: hardness, workability and uniformity of grain. With American red oak, there is also the bonus of sustainability, legal compliance with global timber regulations, availability and abundance. “It’s the story behind how the timber is managed in the US forests that most appeals to us,” explains Louise. “We value the fact that most of the timber is sourced from private properties, selectively harvested rather than through the practice of clear-felling and that the timber is growing faster than it can be harvested. Acting as sustainably as possible is important to our business, and as an industry, we must respect the source of the materials we like to use.”

American red oak is the dominant species in the US hardwood forests, making up nearly one-fifth of the standing hardwood volume. It has a distinctive grain, and wood that is not always red. The name comes from the leaf colour in autumn. So vast is the US hardwood forest that the 2.75 cubic meters of red oak used to create the Oak REdefined installation was replaced through natural regeneration in just 3.15 seconds.

The finished stand at Denfair comprised around 1.81 cubic meters of American red oak, which, through carbon sequestration, stores only under two metric tons of CO2 equivalent. Calculations indicate the entire stand was carbon neutral. “We want designers to make an informed choice about the materials they use,” explains Ahec’s regional director, Roderick Wiles. “We take every opportunity to share the capabilities and strong positive environmental profile of red oak with the world’s design and architectural communities.”

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Rehau enters the cut, edge and deliver market

The Swiss-German polymer products manufacturer, Rehau, has launched its popular online configurator platform for cut-to-size and edged cabinetry components in South Africa and the system goes live from 01 September 2019.

Kitchen, furniture, and shopfitting manufacturers can use the configurator on Rehau’s website to select, specify and buy cabinet doors, drawer fronts and flat panels in the Rauvisio Brilliant high-gloss laminate and Crystal glass-design surfaces.

Mark Stoltz, the sales director for furniture and window solutions at Rehau, explains that in recent years Rehau has broadened its focus from mainly manufacturing and supplying edge band and tambour doors to developing and introducing innovative cabinet surfaces.

“Edgebanding, tambour doors and surface laminates are known to be Rehau’s core competencies in the kitchen and furniture industry. The company has now decided to expand its market by selling finished components. Rauvisio Brilliant is available in a shiny gloss or matte surface, and Rauvisio Crystal is made from Polymethyl methacrylate (PMMA) acrylic and looks like glass. Rauvisio enables high-end kitchen and bath design aesthetics with no extra investment in equipment.”

“When we sell edge bands as a single product, we have to meet the requirements of the surfaces developed by others. Now, when selling furniture surfaces, we can set trends and introduce innovations for new approaches in design. It is an exciting new arena for Rehau,” comments Stoltz.
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The smart glass RAUVISIO Crystal is a polymer surface laminated onto board. It is 10 times more break resistant, has high scratch resistance and is much lighter than real glass.

RAUVISIO Brilliant is an acrylic surface laminated onto board. It is UV stable, scratch resistant and will not warp.

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"Our mantra is to create the very best kitchens and interior spaces we are capable of and to show South African consumers something they have never seen before,” says Vinesh Maharaj. “We do not obsess over the competition. We try to channel that energy internally to build on our personal best at each show.”

Vinesh is the director of The Kitchen Studio that was voted the best overall stand at this year’s Decorex exhibition in Durban, Homemakers Expo in Johannesburg, and the House and Garden Show in Durban. and praised for its Studio Collection at Cape Town’s Decorex.

**Insightful**

“We created The Studio Collection because of an elementary insight. Every year we visit international trade shows, alongside many other South African interior designers, architects, developers and kitchen designers. We all see incredible finishes and designs and have the ambition of bringing them to local shores. However, most are not able to, either because of buying power, a lack of technical know-how, or a lack of appropriate machinery to execute the ideas. We decided to channel that energy internally to build on our personal best at each show.”
The Rover Gold is a compact machining centre designed for high performances capable of meeting various levels of production requirements.

It's the ideal machine for those who require a flexible and reliable solution.

- A single processing centre for all types of machining operations
- Quality finishing
- Reduced set-up time
- Intuitive technology
- Customisation of machine for different production requirements
the finishes and designs,” says Vinesh.

“We decided to provide the industry with unique and high-quality materials and cut-and-edge services that they would otherwise not be able to access. We believe that this will lift the standard of the industry as a whole and inform consumers by offering them an international perspective.”

Quality is far-reaching at The Kitchen Studio. It is not just about imported materials, the company believes in applying modern design and manufacturing technologies and ensuring that the confidence and skills of its machine operators are fully developed.

**Materials drive design**

“The materials we use drive our designs, our knowledge of our customer needs and our openness to innovations,” Vinesh explains. The company is currently focusing on:

- Perfect gloss materials like 2mm slimline glass and Rehau Rauvisio Crystal
- Wild grain and African veneers like Ofram, Celtis and Shedua
- Slim worktops (8mm-12mm)
- Ingenious internals and organisers, like Siges pull-out pantries, Hettich organisers, and customised solid wood organisers.

“We are constantly researching new materials, fittings, fixtures and hardware, and travel widely to find new resources. The developments in Italian surface designs and finishes, and German fittings and fixtures are inspiring, and we know how to translate and convert them into desirable products for South African conditions and tastes.”

“In the increasingly small world we live in; consumers stay abreast of the latest international trends and are demanding those trends in their homes. The days when customers came to us with an image circled in a magazine or newspaper are replaced by

Craft and design magic come together at the Studio Kitchen.

Panels of any size and thickness are machined by the Skipper simultaneously from top and bottom in real time.
Pinterest, Instagram and Google image links with particular requests and a clear idea of how it should be executed,” Vinesh says with a smile.

**Synchronised design and manufacturing**

The Kitchen Studio currently employs 24 full-time design consultants who understand all aspects of furniture construction. The company specialises in custom-designed kitchens, and Vinesh says this makes their work challenging.

“Our design consultants and production managers need to be in-synch at all times. It is critically important that when a consultant designs, they factor in what our production facilities can do. Because we are a custom company, there is a margin for error, and it requires constant effort to ensure that designers and production managers are aligned as best as possible.”

**Production**

The Kitchen Studio’s production plants are situated in Mobeni on the outskirts of Durban, two plants in Richmond a small rural town, and in Park Rynie on the KZN South Coast. The company provides full-time employment for close to 450 people, with the majority being production staff.

Visitors to the unassuming Richmond factory are often surprised when they walk into the modern manufacturing plant equipped with advanced production machines and processes. The well organised flow of work and energy and enthusiasm of the staff makes it easy to see why The Kitchen Studio has a reputation for quality products.

The primary technology supplier to the company is the Austro Engineering branch in Durban that is headed by Austro director Brian Downs. “We have dealt with Austro since the very beginning. They supply a wide range of heavy-duty, good and reliable machines, which are expensive but worth it. We believe successful businesses are built on relationships, and we have an excellent relationship with Brian and his team,” comments Vinesh. The most recent addition to the machine line-up at the vast Richmond plant is the Italian-made Biesse Skipper 100L just-in-time, CNC through feed drilling, routing and grooving machine with zero setup time. The Skipper supplements the three Biesse Selco beam saws, Biesse Rover-A CNC machine, edgebander, Panotec box maker and Neleo orbital plastic wrapping machine.

Although the heart of the business is bespoke; high-end kitchens made with premium, mostly exclusive materials; a growing aspect of The Kitchen Studio is multi-unit developments. Vinesh says they brought in the Skipper to allow them to cater for high-volume projects, where the product is consistent and uniform.

**Skills development**

“Over the year’s woodworking machines have become increasingly capable, and arguably more intuitive. However, there is still a significant undertaking in continuously training and upskilling our operators to maximise the machines’ capabilities,” Vinesh explains. “We rely on the local agents and their international machine suppliers to train our staff on how to use this equipment. This training happens as soon as the machine is set up.”

When it comes to the core business of high-end bespoke furniture, there is still a large human, hands-on element to the work. Vinesh says “Unlike a car factory, every one of our kitchens is unique, which means we always rely on artisans and skilled carpenters with years of collective experience to create a product.

“In Richmond, we have cemented ourselves as part of the community, being one of a handful of manufacturers in the area. We want to ensure that we are offering work opportunities to the community as far as is feasible for us as a business. “The real magic happens in our factories where we add such great value to materials and turn them into complete kitchens and interiors.”
Furniture industry rescue plan takes shape

South Africa’s furniture industry is in decline, but relief is on the way in the form of a comprehensive and actionable Furniture Industry Master Plan that will be drawn up by the end of the year.

The decision to implement a master plan to support the industry was made at the first Furniture Sector Forum meeting held in Johannesburg in July. The well-attended forum was hosted by the Department of Trade, Industry and Competition (DTIC), the South African Furniture Initiative (Safi), Proudly South African (PSA), and PG Bison.

Safi was established in 2016 as a joint initiative between government, labour and industry to strengthen the furniture industry. In his presentation at the forum, the chairperson of Safi, Penwell Lunga, described the history of the furniture industry and factors that caused hundreds of factories to shut down and thousands of people to lose their jobs.

He said that there was a steady growth of South African furniture exports between 1990 and 2002. Over the following three years exports began to decline, and in 2005 the furniture imports exceeded exports for the first time.

In 1995 conservative estimates show that the furniture industry employed more than 50 000 people with many saying the actual number was closer to 80 000.

Today less than 27 000 people are employed in the industry, and over the last 20 years, over 1300 formal factories have shut their doors. Lunga explained that South African furniture manufacturers could not compete with Chinese imports when they have to contend with increasing costs of production, illegal imports and a dwindling skills base. He said the retail furniture industry is also suffering because the low-end consumer market has migrated to the informal market, which is served by cash traders.

Stephanie Forbes of the Kitchen Specialists Association (KSA) informed the audience about the challenges facing kitchen manufacturers and installers. The forum confirmed that these companies should join the furniture industry.

Safi and the KSA will continue to facilitate the partnership and the process of changing the scope of the bargaining councils in KZN and the Western Cape in line with the other regions.

The DTIC and PSA, the anchor sponsor of the forum, shared their efforts to strengthen the furniture markets by encouraging local procurement initiatives. These initiatives include regulations to enforce compliance with government rules on local-only procurement of furniture and equipment by government departments.

“By channelling government expenditure on furniture and equipment to South African manufacturers we can boost the sector by between R5-billion and R8-billion a year,” commented Bernadette Isaacs, chief operating officer of Safi.

One of the many initiatives discussed at the forum was the benefits of becoming a PSA manufacturer. Recent changes to the PSA membership structure has made it affordable for small manufacturers to become members. This provides access to networking forums, local and global marketing events, the Buy-Local procurement platform and the new RSAMade.co.za online store that is exclusively for locally made products.

Safi and PSA extended the call for local procurement to the private sector, and several large corporations and medium-sized companies signed their commitment at the forum.

“The furniture manufacturing sector is perhaps the most diverse of all the manufacturing sectors, with an average employment per manufacturer of 13 people per facility,” said Isaacs. “While this makes it ideal for regional expansion and rapid employment growth, it also means that many of smaller manufacturers feel isolated.”

“With forums such as this one, we can share best practices, new ideas and detailed information about government support and industry incentives, which will boost manufacturers, both large and small.”

The Furniture Sector Forum ended with a list of action items that includes the Furniture Industry Master Plan. A service provider will be appointed in July and the master plan finalised before the end of December 2019.
Government supports the furniture master plan

Speaking at the recently held furniture sector forum, Ncumisa Mhlauli-Mcata, chief director of the trade, industries and competition (DTIC) department’s agro-processing and resource-based industries division, reiterated the government’s support for the sector and its industries.

Mhlauli-Mcata says the DTIC believes the furniture industry needs improved competitiveness, market development, better access to funding, appropriate business and technical skills, supportive regulatory interventions and infrastructure development.

She emphasised the importance of strategic partnerships and the “Buy Local” campaign spearheaded by Proudly South African.

Mhlauli-Mcata says her department’s goal is to assist the sector to produce an actionable Master Plan, similar to the master plans for the automotive and clothing and textile industries. The objectives of the furniture Master Plan are to find solutions that will:

- Protect the current industry and retain existing businesses in the short term
- Develop a growth plan to improve productivity and competitiveness in the industry
- Create employment opportunities
- Create markets for South African products

The DTIC is proposing the establishment of furniture manufacturing hubs, with phase one in Johannesburg. The hubs will provide access to business premises and infrastructure and:

- Operate a sector information desk
- Facilitate competitiveness improvement programmes that include manufacturing best practices, skills development, furniture design capabilities and supply chain optimisation
- Facilitate access to local, regional and international markets
- Facilitate access to grant and commercial funding and private-public sector finance models.

On the regulatory front, the driver for local market access improvement is furniture designation.

Mhlauli-Mcata explained that some classes of furniture were designated in 2012; however, it was not fully enforced.

The new Preferential Procurement Regulations that came into effect in April 2017 stipulate clear directives on remedies of non-compliance.

School and office furniture are designated, and there are compulsory sets of national and international standards that are specified.

Mhlauli-Mcata ended her speech with information on how to access industrial financing through the black industrialist’s programme and the agro-processing incentive programme.
PG Bison is proudly South African

PG Bison was the only private sponsor of the Furniture Sector Forum gathering in mid-July that was co-hosted by the Department of Trade, Industry and Competition (DTIC), the South African Furniture Initiative (Safi) and Proudly South African (PSA)

“PG Bison has come on-board to sponsor this event because we believe that dialogue like this is crucial to bring together industry stakeholders from throughout the value chain,” says Justin Berry the sales and marketing executive at PG Bison. “We need to collaborate if this industry is to survive. The sector is under threat from imports and job losses, and working together – as a private, public and civil sector – is the only way to plan a positive future.”

Berry went on to say “We hope this event will be a catalyst for collaboration in tackling issues such as potential policy interventions and incentives including the likes of duty protection, better enforcement (such as addressing the issue of under-declaring imports at our harbours), recapitalisation of the industry and creating access to markets.

“We need to identify the challenges facing the furniture sector and begin to formulate solutions. If we don’t, we risk the ongoing shrinking of the industry, which includes domestic furniture and office furniture, and has the potential to spread to kitchen manufacturing too. We need to do something fast, and we need the involvement and buy-in of not only government but manufacturers, industry bodies, unions, retailers and even the end consumer.

“We hear from retail customers who say they import because local design lags behind international trends.

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Gerhard Victor, the CEO of PG Bison accepts the company's certificate of membership of Proudly South African.

That is a fixable problem. We have the potential to address it by highlighting the abundance of up-and-coming local design talent. We should be looking to develop our design aesthetic that appeals not just to local clientele but helps to influence international trends too.

“There is also a need for consumer education. President Cyril Ramaphosa focused on the need to support local manufacturing in his State of the Nation Address, and he’s right. South Africans need to be proud to buy locally, and they need to prioritise local procurement, not just at the individual or household level, but within organisations too. Business cannot decry a flailing furniture industry when tenders are still giving preference to cheap imports over locally produced office furniture.

“Fixing this sector pays dividends on so many levels, and each of us needs to recognise our responsibility in doing so and play our part.”

The history of the English Windsor chair - By Don Priest

The article on the Lost art of Chairmaking in the February 2019 issue of Wood SA & Timber Times inspired me to write this article on the origin of the Windsor chair.

They may be so named due to the original beech timber probably having come from Burnham beeches, an ancient woodland quite close to the town of Windsor of royal castle fame.

High Wycombe in the Chiltern Hills in Buckinghamshire was for many years the main furniture town in England. There were several reasons for the furniture industry to develop there.

The town was (and still is) on a major transport link between London and the west of England allowing easy access to markets in those difficult days of goods distribution. A more important reason was that the timber from which the chairs were made, grew plentifully in the surrounding hills. By 1877, there were almost a hundred factories in High Wycombe producing around 4700 chairs per day, supplying most of the seating needs for the southern half of England.

The Chiltern Hills are deep, pure chalk beneath a capping of clay soil. Beech trees (Fagus sylvatica) thrive in chalk and are the reason why the town and surrounding villages were so involved in furniture manufacture. Other commercial species including oak, ash, cherry, elm and walnut also grow in the area in smaller quantities.

Somewhere in the period around 1700 AD, Windsor chairs started to be made, using mostly beech with elm for the seats. The design is unique because most wooden chairs use back legs which extend up past the seat to form the main structure of the back. The legs and back components of Windsor chairs are all joined into the elm seat.

In the early days, the first stage of manufacture of legs and rails was done by bodgers in the beech woodlands. Beech trees were felled and cross-cut into short blocks of the length of the legs and rails.
These were split into pieces using an iron wedge and a heavy mallet known as a beetle, so that the grain was always straight, giving maximum strength and no distortion in drying. Every bodger had a homemade wooden treadle lathe which was driven by a rope wound around the headstock. One end of the rope was attached to a young sapling tree, bent over to function as a spring. The other end was attached to the foot-operated treadle. As the bodger pressed the treadle down the rope rotated the piece of green and relatively soft beech so that he was able to shape the wood with a chisel. When the treadle was released the sapling sprang back up reversing the rotation of the workpiece.

There were few proper roads back then. When the bodger completed a batch of chair parts, he transported them, often for many miles, to the chair factories using dogs or donkeys to pull the loaded carts. The benchman produced the seats, back splats and other sawn parts and the framer assembled and finished the chair.

There are no dowels, mortise and tenons or screws in the construction. All the legs and rails are turned at their ends to a taper and glued into a tapered hole in the seat. Nothing in the chair is square, and all the tapered holes are at compound angles. Assembly of a Windsor chair is a relatively straightforward process; the underframe is glued first in a single operation up to seat level. No clamping is required as the assembly is self-tightening and relies upon wedges, dowels or a simple friction fit for the strength of the joint. The back assembly follows a similar principle to the underframe, also using wedges and dowels to maintain the structure. This required great skill in tooling, machining and the use of jigs in manufacturing and manual assembly.

The photograph shows my two chairs of the original Windsor design. These chairs were made in 1976 in a small family-owned factory close to my home in the village of Stokenchurch in the Chiltern Hills. Sadly, the beautiful elm seats were almost at the end of the species. Dutch elm disease was about to kill all mature trees to the point of extinction.
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