TOUGH, NO-NONSENSE RELIABILITY

HUSQVARNA 51 CHAINSAW, TRIED AND PROVEN TECHNOLOGY IN THE ROUGHEST OF AFRICAN CONDITIONS.
Trim Saw

neil@multisaw-sawmilling.com
Neil - 082 569 2430

allan.p@multisaw-sawmilling.com
Allan - 082 312 5667
Office: 044 532 7840

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By Joy Crane

Message from the Editor

A farewell note from Joy Crane

This is a difficult editorial to write. I knew the time would come for me to leave Wood Southern Africa & Timber Times and move to another project, but I didn’t think my second stint as editor would end after only 27 highly eventful and stimulating months!

Before I get to my reasons for leaving, I would like to tell you more about this, the second last issue of the magazine for 2018. In the forestry section the story of Ntsako Shikwambana highlights the tradition of academic and research excellence that is the reason for the demand for South Africa’s young foresters all over the world.

In the sawmilling section the focus is on the annual gathering of lumber dryers which serves as a platform for the sharing of research, knowledge transfer and skills development. Speaking at the event, Roy Southey of Sawmilling SA warns that the structural timber market may be at a tipping point and industry, government and academic institutions need to collaborate to vigorously promote wood and its environmental credentials.

This is supported in the woodworking section by the Institute for Timber Construction (ITC-SA’s) call for tertiary institutions to pay more than lip service to the role of timber construction in engineering. Southey also calls for support for the creation of black-owned timber truss assembly plants in rural areas, to serve the low-cost housing and construction industries.

So, why am I saying farewell to the magazine once again? One of the reasons is because I am returning to the field of occupational skills and small business development. During this and my previous time at the magazine I have tried to highlight the successes and challenges of skills development. In my role as the Fibre Processing and Manufacturing (FP&M) Seta Sector Skills Advisor in the Western Cape, I have encountered at first hand and am motivated by, the amazing work done by people whose calling is to train others.

However, the main reason I am moving on, for the moment, is because for various reasons including the changing environment and climate, there are fewer plantations and sawmills near Cape Town, where I am based. Gauteng remains the powerhouse for the country and the hub from which to travel to the forestry and sawmilling provinces. Despite a strong and highly creative woodworking industry in and around Cape Town, the main forests and sawmills are 450km away in the southern Cape.

Short of moving to Johannesburg, the home of Malnor, the owner and publisher of the magazine, the reality of increasing transport costs makes it frustratingly difficult for me to cover the news in the other regions.

It has been my pleasure to work on Wood SA. It has renewed my enthusiasm for the sector and strengthened my friendships with people and created new networking opportunities. And most importantly, it has broadened my education. With the help of my colleague, Johan Meyer, we have worked hard to write stories and cover news that is relevant. Thank you to our readers and everyone for their article contributions, comments, and support for the magazine.

I would like to take this opportunity to thank the owners Ken Nortje and Johan Malherbe and the management team of Sophia Nel and Marius Nel, and the head of admin and now the layout artist of the magazine, Yoland Lintott for their support. My special thanks goes to Mickey Petersen for her friendship and her passion for the sector the magazine serves.

All that is left for me to say is so long, farewell, it’s time to say goodbye... again. With that I leave you in the very competent hands of the new editor, Kim Kemp, who will take the magazine into a new era.
Pietermaritzburg-based Husqvarna South Africa has defied the general corporate trend of shaving its operations. Instead, it has just opened a wholly owned subsidiary in Kenya, and future expansion plans include the addition of more subsidiaries into West Africa.

Swedish-owned Husqvarna, a world leader in outdoor power products, has, for the past 330 years, manufactured everything from muskets and motorcycles to sewing machines and bicycles. Long recognised around the globe for its superior chainsaw and brushcutter range, it is also the world leader in robotic mowing.

Husqvarna operates locally through a specialist network of 120 dealers, and the brand is widely recognised throughout Africa, says Dylan Lane, Husqvarna regional manager: Africa. “We already have a presence in 30 countries on the continent, and our new subsidiary in Kenya will provide additional support for our distributors in East Africa, where we are the leading professional brand.”

The company has, for the past 10 years or so, achieved a double-digit annual compound growth rate. Yet despite a global group turnover (2017) of approximately R60-billion, Husqvarna has no intention of resting on its laurels. The product range for Africa comprises an astonishing 276 items - the market's widest, most innovative and powerful range of machinery and tools for the forest, garden, park, construction and stone industries – with the company having just launched 70 new products to the market.

Robotics, the new buzzword, is a field Husqvarna has been researching for over 20 years and sees the company’s engineers developing solutions and products that meet tomorrow’s needs.

“It is predicted that the world will be increasingly urbanised, and by 2025, about 60% of the population will be living in cities,” says Lane.

“There will be fewer home gardens, and so urban green spaces will be more relevant. We need to think ahead, plan for the future, worry about emissions more – hence our extensive range of battery products and our ‘silent nature’ drive. Less noise, less disruption, less harm to the environment – we believe in that, and it is what helps us stand out.

“As we expand, we cannot rely on just one market or product segment either,” Lane added.

“Pressure washers, water pumps and generators are all new offerings from Husqvarna, which will add to customers’ experience. We believe we have some very exciting times ahead,” he said.
Husqvarna’s duelling saws take top honours

Husqvarna’s five-man team dominated the Mpumalanga Show’s first speed cutting competition and has set the bar high for next year.

Roger Jackson, Husqvarna’s national speed cutting legend from Pietermaritzburg, won first place in the 60cc standard saw category, with Sabie’s Denzil Lawrie and his Husqvarna taking the third spot. Roger also won second place in the 73cc standard category, followed by Denzil in third. In the open category Karel Greef and his Husqvarna 3120XP took top honours.

“It was great fun,” says Roger. “The combination of high quality and great performing saws with superb leadership made us ready and hungry for the battle. Heinrich Rabe managed us well and made sure we prepared the saws properly, which all ensured that we had excellent team spirit.”

Heinrich and his 18-year-old son, Alex were a highlight of the show. This father and son team showed exactly why the adage, practice makes perfect is so true. “It’s a way of life for us,” explains Heinrich, who has been speed cutting for eight years. “We love it.”

Heinrich and his Husqvarna chainsaws claimed second place in both the 60cc standard and the 73cc modified categories, and he was the overall winner in the open category. He was thrilled with his achievements, particularly because conditions were extremely hot, which added to the challenge.

This was the first year that chainsaw speed cutting was included in the annual Mpumalanga lifestyle, agricultural and forestry show, and it was so well received that participants expect it to become a regular feature.

The preliminary bouts of the competition took place on the Friday, with the top eight out of the 20 competitors across all classes selected for the next day’s finals. Eight out of the 12 positions in the competition went to Husqvarna.

The adrenaline-charged sport of speed cutting is steadily increasing in South Africa. Across the various categories, chainsaws generally range from 70cc standard machines used by the forestry industry to super modified 120cc giants that produce incredible horsepower and chain speeds of more than 180km/h.

Roger says “The idea is to showcase Husqvarna’s products to the community, so we raced two groups of standard saws for different timbers: one saw class up to 60cc, the other up to 73cc,and a modified version of the 73cc class. In the open class, anything goes, provided it resembles a currently available chainsaw.”

Swedish-owned Husqvarna has a proud heritage in the chainsaw arena, its 300-year-old history is characterised by innovation after innovation since opening in the 1600s as a weapons factory. In the 1800s Husqvarna began producing sewing machines, kitchen equipment and bicycles. Fast forward to the 1900s when motorcycles and lawnmowers were added to the product range and in 1959, its expertise in engines enabled Husqvarna to launch its first range of chainsaws.

The company’s reputation endures today, and it is the first port of call for many chainsaw devotees looking for a top quality, superior, long lasting product.
GRABBING the future

Carl Gutzeit  |  Mike Jackson  |  Tel: +27 39 6854100
carl@dezzi.co.za  |  mikej@dezzi.co.za  |  www.dezzi.co.za
The AGFO Expo, which takes place at the Casterbridge Lifestyle Centre in White River from 8 to 10 November 2018, this year incorporates the SAMAC Macadamia Industry Day and the Fire-Tech Day.

The Fire-Tech Day, on Thursday 8 November, will include demonstrations of and discussions around various fire equipment and products and their uses.

Topics include risk mapping; the influence of climate change on fire trends; computer-generated wind and weather modelling; detection and management of forest fires; the ops rooms and fire prediction modelling within forestry; an integrated approach to successful fire suppression using fire tenders, strike craft, fire equipment and fire-fighting personnel; fire suppressants, applicators and the latest on pumps hoses and nozzles.

The cost to attend the day is only R100, which includes entrance to the expo, the Fire-Tech Day and a light lunch.

The SAMAC Macadamia Industry Day, on Friday 9 November, has world-renowned plant pathologist from Australia, Dr André Drenth, as the keynote speaker; and various other industry experts who will share their knowledge with visitors. Well-known economist Dr Roelof Botha will share the results of a study on the impact of land expropriation without compensation and how this will affect the SA economy.

Some of the other topics under discussion include an update on the macadamia tree protection programme, enviro-friendly stink bug control, transformation in agriculture and the macadamia industry, an outlook on the global macadamia market, macadamia water use, tree diseases and pests and the management thereof.

The complete programmes for the Fire-Tech Day and the SAMAC Macadamia Industry Day are available on the website, www.agfo.co.za, and people interested in booking tickets can do so here.

A VIP networking event – for SAMAC Industry Day attendees and AGFO Expo exhibitors and sponsors only – will take place on Friday evening.

This year’s expo also includes various equipment demonstrations and the ever popular chainsaw competitions.

Forestry companies and harvesting contractors are encouraged to enter their teams to stand a chance to win great prizes and walk away with the floating trophy, sponsored by Rudamans Nelspruit. Entry forms are available online at www.agfo.co.za.

Members of the public can enjoy various fun competitions, including tug of war, axe chopping, pit saw and boeresport. Take the family and relax in the ‘Chill Zone’ beer tent and enjoy a traditional South African braai and entertainment from local bands on Saturday. And, don’t miss the LEFPA Bomber fly by!

The AGFO Expo Trail Run, in aid of Hospice, also takes place on Saturday 10 November, with a choice of either a 5km or 10km race. Entry forms are available from Fit To Go Training Centre or email lindivr@gmail.com.

Win a bursary

One of AGFO’s prestige sponsors, Agricollges International, is giving away four bursaries, namely Introduction to Plant Production; Introduction to Agribusiness; Fundamentals of Macadamia Production and a 40% contribution towards a National Certificate in General Agriculture.

Entries are open until 31 October. Enter online at www.agfo.co.za - on the bursary tab.

AGFO organisers appreciate the support of its various sponsors, which are showcasing their support of the agriculture and forestry industries. Sponsors already onboard for AGFO 2018 include Agricollges International and Mascor (prestige sponsors); Ezigro Seedlings (diamond sponsor); Novon Retail Company, Nedbank and Systeco Automation (gold sponsors); Adama, Silvix Forestry, United Forest Products, Sanlam and Green Farms Nut Company (silver sponsors); and Rudamans, which is sponsoring support vehicles and equipment. There are a limited number of exhibition stands and sponsorship opportunities still available.

Exhibitors that have already secured their stands for AGFO 2018 include:
FIRE-TECH DAY
08 NOVEMBER
Casterbridge Lifestyle Centre,
White River, Mpumalanga

Fire-Tech Day will include:
Demonstrations & discussions
around various fire equipment,
products and their uses.

BOOK NOW
Ticket price R100
Includes gate fee and a
light lunch.

TOPICS INCLUDE

- Risk mapping.
- Climate change, fire behaviour.
- Detection & management.
- Ops rooms & fire prediction within forestry.
- Fire tenders, strike craft, equipment & fire-fighting personnel.
- Suppressants & applicators.
- The latest on pumps hoses & nozzles.

AGFO EXPO 2018
8-10 NOV
WWW.AGFO.CO.ZA
082 854 6155

Your preferred trade platform
Can Do’s harvesting ops rely on Bell T17 articulated trucks

Forestry contractor, Cassie Greyling and his company, Can Do Timbers, trust Bell Equipment’s range of harvesting, timber handling and transport machines.

Can Do Timbers was founded in 2004 and has grown to be a major contract timber harvester for some of the largest forestry companies. “We’re currently felling, extracting and doing short haul on mainly Eucalyptus compartments in two areas, one near Graskop and the other near Barberton,” Cassie explains.

“Some years ago, we did our planning so that we have a 60:40 split in favour of mechanised harvesting,” he says. This ratio translates into tree lengths of 4,2m being harvested mechanically while shorter lengths of 2,4m are harvested manually.

“Having started with a small team of people harvesting manually, we value our personnel and the work they do and believe we still have a role to play in creating and sustaining employment,” Cassie says. “We do however also have clients who have huge demands for their product, hence our increasing mechanisation.”

Can Do Timbers has a long association with harvesting and timber handling equipment manufactured, sold and maintained by Bell Equipment. The company deploys Bell 125 and Bell 225 crank boom loggers, a John Deere 759 harvester with a Waratah HTH616 harvesting head, a John Deere 1710D forwarder and John Deere 540G cable skidders.

All this equipment can fell and extract timber from within the compartment to the roadside. Moving the timber to manageable depots where it can be loaded onto interlinked rigs for long haul remains a challenge especially in the areas with extreme inclines and slippery underfoot conditions found in the timber growing areas around Graskop and Barberton. High annual rainfall of up to 1100mm makes this ideal terrain to grow timber but also causes dangerous conditions on gravel roads.

“Bell Equipment has a solution for this challenge and some years ago and we bought seven Bell T17 articulated timber trucks from a timber plant hire company that had ceased its operations,” Cassie explains. “This fleet had done high hours of between 26 000 and 30 000 but came with many spare components, engines and differentials. We’ve subsequently reduced this fleet to five which gives us the handy option to always have one truck as a spare should one need attention or servicing.”

Cassie lauds the design and build of the Bell T17 articulated timber truck. The trucks in his fleet now boast hours of between 50 000 and 60 000, and he and his team of six qualified mechanics have not picked up any cracks or signs of wear in the trucks’ chassis.

“The Bell T17 articulated timber truck doesn’t have a normal suspension but a walking beam which absorbs much of the shock of the challenging roads we haul the timber on. However, the big advantage for us in getting our loads of timber safely to depots is the braking system on the...
Every Choice Under The Canopy

Through our carefully selected combination of own and partner products, Bell Equipment provides solutions that meet customers’ needs as they move from manual to fully mechanised operations. Driven by providing lowest cost per tonne solutions, we look at the whole mechanised system and not only specific parts of the system, with a keen view to improve operational safety and productivity.

Bell Equipment - a proudly South African company committed to helping businesses realise Africa’s potential.

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Can Do’s harvesting ops ...

Bell T17, which negates the steep declines where we carry full loads up to 16 tonnes,” he says.

“The truck has two built-in retarding systems which are automatically activated every time the operator takes his foot off the accelerator. The first is an engine braking system through an exhaust brake flap and an exhaust valve brake and the second is a transmission retarder with a torque converter that operates in reverse to slow the truck down. The operator can set the retarder strength.” Should there be an engine failure the emergency steering hydraulic pump will aid steering and braking.

“Another reason why we simply cannot do without these trucks is their manoeuvrability around tight corners and at loading depots where space can be restricted. In addition, the truck’s ability to tip its load is simply great as this creates a reduction on cycle times,” says Cassie.

Can Do Timbers also run a Bell T302 non-tipping Timber Truck, with its own crane for loading and unloading.

“Sustained mechanical availability should however never be taken for granted and we ensure that our operators, who generally drive for around eight hours in a ten-hour shift, diligently work through their daily checklists to ensure the trucks remain in good mechanical condition. Our own team of mechanics know these trucks intimately and ensure their uptime remains high.

“Any fleet of mechanised equipment is only as good as its technical backup and we rely heavily on Bell Equipment’s Customer Service Centre in Nelspruit for this,” Cassie concludes.

“Under the leadership of Charles Inggs who knows all about the challenges we face, the guys at Bell often make a plan to get parts to us quicker than most and that we appreciate.”

When you buy Stihl, you’re investing in globally acclaimed technology with a proven track record. Stihl’s professional-grade chainsaws have been designed specifically for the forestry sector, which is where this international corporation has its roots. Founder Andreas Stihl developed the world’s first engine-driven two-man saw way back in the early 1920s.

Investing in Stihl is a sure money-saver
Buy Stihl, and you’ll be saving yourself money in the long run, with its chainsaws offering a robust performance - up to the toughest challenge - with surprisingly fuel-efficient benefits.

A prime example is the Stihl MS 382 chainsaw, an enhanced version of the ever-popular MS 381, which set the bar as South Africa’s best-selling chainsaw.

This 3,8kW chainsaw is ergonomic and lightweight (6.2kg) with an excellent power to weight ratio and numerous upgraded features.

Developed specially for the forestry industry, it combines a powerful professional delivery with outstanding fuel consumption – using up to 20% less fuel than previous models, thanks to the improved 2-mix motor.

With today’s ever-increasing fuel prices, that’s an impressive saving.

Its Stihl Ematic bar lubrication system ensures extended wear and reduces chain oil consumption compared to conventional methods of chain lubrication - up to 50% less depending on the cutting attachment and the type of wood being cut. The new-look starter cover helps prevent dirt from entering the cylinder fins for reduced wear and less frequent need for maintenance.

Other upgraded features include an optimised crankshaft and a 100% aluminium flywheel with fewer fins, again assisting with cooling. Because there is less rotating mass, there is reduced wear on the main bearing and the crankshaft, resulting in even greater reliability.

Stihl cost-consciousness extends to the larger Stihl machines, including the latest powerhouse model, the MS 462. Designed for multiple forestry applications, the MS 462 easily copes with felling, pruning, cutting up and harvesting big timber.
This 70cc professional-grade model has an economical, fuel-efficient 2-MIX engine and is lightweight without compromising on delivery.

The MS 462 has been designed as a hard-working professional machine, so Stihl has prioritised servicing and maintenance.

The MS 462’s new HD2 air filter with a radial seal has a longer life and improved fine dust filtering efficiency compared with the previous model. It is easy to clean and has an oil-and water-repellent surface.

**Easy handling for all-day use**
Forestry is a demanding industry, so Stihl focuses on constantly enhancing its operator benefits. In addition to being fuel-efficient, easier to service and more cost-effective to maintain, the MS 382 is also more user-friendly and more comfortable to operate, with reduced noise levels, lower emissions and a lighter, ergonomic design.

All these factors help reduce operator fatigue during extended work periods.

The MS 462 is lightweight without compromising on delivery. It is the lightest high-performance chainsaw in the 70 cm³ cubic capacity class, weighing in at 7.4kg with 20” guidebar and chain - ideal for an all day, every day performance. It is highly manoeuvrable, with an impressive power to weight ratio of around 1.4 kg/kW. Its improved weight has been made possible by a new engine unit design with enhanced cylinder geometry.

**Cover all your forestry bases with STIHL**
STIHL is the world’s largest-selling chainsaw brand, and there’s a tried and trusted chainsaw model designed for every forestry application. For general purpose tasks such as thinning, pulp operations and pine clear felling, the MS 382 is the perfect machine, a 3.8kW robust fuel-powered chainsaw that is an enhanced version of the best-selling MS 381. Specially designed for the tough conditions of a professional forestry environment, it is ergonomic and surprisingly lightweight (9.2kg), making it user-friendly to work with, in addition to reduced emissions and lower noise. It is also very cost-effective, using up to 20% less fuel than previous models, thanks to an economical 2-MIX engine. For more demanding large timber applications, call on the new MS 462, a hefty timber saw designed to tackle pine clear felling, pruning in medium- and high-density stands and other tasks needing a heavyweight performance. Despite its power, the MS 462 is the lightest high-performance chainsaw in the 70 cm³ cubic capacity class. With 20” guidebar and chain, it weighs in at 7.4 kg, and offers an impressive power to weight ratio of around 1.4 kg/kW. It is easy to handle and manoeuvre, with outstanding acceleration, thanks to its 2-MIX engine. The MS 382 and MS 462 are two outstanding chainsaws that have been specially designed for professional forestry operations by the global expert in power tools – STIHL.

Like any premium item, STIHL products are only available at specialised dealers nationwide. For expert advice and superior after-sales service, visit www.stihl.co.za.
Two top quality... Two top quality...

Stihl has reduced the weight of the dry chain saw including the cutting attachment. Redesigned cylinders, slimmer chain sprocket covers and consistent changes of material for other components, in the engine units in particular, have resulted in major weight savings—without compromising on ruggedness or service life.

How Stihl maintains its quality
Stihl is one of the few power tool manufacturers to control the quality of its products by manufacturing elements such as the chain and guide bars, carburettors, crankshafts, pistons, cylinders, and outer housings.

Stihl in South Africa maintains high stock levels of machines and spares so there's no delay while products or spares are imported. STIHL also offers a guaranteed ten year spares availability, even after a product has been discontinued. And the nationwide network of Stihl dealers ensures reliable after-sales service and expert advice.

Outstanding performers
The Stihl MS 382 and MS 462 are examples of how Stihl chainsaws have mastered the needs of the forestry sector across the world. They are excellent examples of why Stihl is the world's best selling chainsaw brand.

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**Vacancy - Technical Manager**

*Form Ghana Ltd is the first FSC certified teak forest plantation company in West Africa.*

*Form Ghana manage 20,000 ha land of which 8,200 ha is already commercially planted. The company is rapidly growing and will further expand its activities in Ghana and invites applicants for the position of Technical Manager.*

**Requested profile**

*The applicant must have:*  
- proven technical capacities (including financial aspects) and working experience in a management position of at least 5-10 years;  
- extensive knowledge of forest engineering, such as harvesting, roads, workshops and infrastructure;  
- practical knowledge regarding tool maintenance and procurement of equipment;  
- practical knowledge of fire management and fire equipment;  
- a desire to improve productivity and to drive innovation;  
- a team builder-trainer-coach and excellent in communication, specifically with the traditional occupants of the area;  
- ability to manage and motivate functional staff, work independently and compile operational reports on a regular basis;  
- work experience: technical management in a forestry company – Sub-Saharan experience advantageous;  
- educational qualifications: list advantageous.

**Form offers**

- A long-term position as Technical Manager.  
- A market conform salary and good secondary terms of employment.  
- An excellent work climate, with furnished house, company vehicle and established infrastructure.

For more information please visit: [www.forminternational.nl](http://www.forminternational.nl) and [www.formghana.com](http://www.formghana.com) or contact the Managing Director, Mr Willem Fouse. Also visit our facebook page for background information.

Please send your application letter and CV before December 31, 2018 to directie@forminternational.nl for the attention of Mr Paul Hol.
NMU students put Africa’s junior foresters on the map

Ntsako Shikwambana, a final year forestry diploma student at the Nelson Mandela University (NMU) George Campus won the XV International Junior Forest Contest held in Moscow, Russia, from 17 – 21 September.

This annual international congress brings forestry students from 21 countries together to share their research and insights and compete for top honours with their scientific papers on forestry-related topics.

Although students from NMU have consistently been ranked amongst the top ten best performers in this contest, this is the first time that a student from Africa has walked away with the coveted first prize.

Fellow George Campus forestry student, Chwayita Mahlelehlele, who also participated in the event, was considered a strong contender for the top spot, and received a special commendation for her outstanding presentation.

The members of the adjudicating team for this prestigious competition included the under-secretary from a Chinese government department, the head of orotocol of the Russian government and various professors and high-ranking officials from the United Nations Food and Agriculture Organisation (FAO) and other agencies.

The annual contest is organised by the Russian government’s Federal Forestry Agency. The objectives include the promotion of education in forestry and environmental studies and to involving young people in activities aimed to promote sustainable forest use within communities. It aims to encourage co-operation and knowledge-sharing in forest management, environmental and practical experience amongst forestry students from across the globe.

George campus lecturer, Hannes van Zyl, Susan Leseke, chief director: operations and Irene Mathabela, deputy-director of the Department of Agriculture, Forestry and Fisheries (DAFF) accompanied the students on the trip. “I was humbled, a little disbelieving, but extremely happy,” says Ntsako. “This trip has given me confidence and I have learnt to appreciate and embrace every moment with a smile and to work hard.

I may not win a trophy at the end of each competition, however there will always be something that I can learn and add to my life, new experiences, new friendships and personal growth by venturing outside my comfort zone,” she explains.

The university congratulated the two students on their outstanding achievements and thanked them for flying the flag for NMU George Campus, South Africa and the continent.”
What’s Arbor Day all about?

Thirty-five years ago, South Africa introduced the first official Arbor Day, which became Arbor Week in the late 1990s, and today the role of trees in our lives is celebrated for a month in September each year.

During the first week in September schools, businesses and organisations are encouraged to participate in community greening events to improve the health and beauty of their local environment. Every year two trees, one common the other rare, are chosen as the Trees of the Year and people are encouraged to plant them to preserve them for future generations.

Trees of the year

This year the trees of the year are the *Podocarpus Elongatus* known as the Breede River Yellowwood and the *Boscia Albitrunca*, commonly known as the Shepherd’s tree.

Plantation forests are often cast the villains of the environment, but this is a short sighted and uninformed view. Forestry South Africa, the non-profit organisation that serves the interests of all South African timber growers advises all educators and people who do not understand commercial tree growing, to visit their forestryexplained.co.za website to learn more.
Advantages of commercial forests include:

- One mature tree can produce enough oxygen to sustain two people for a whole year. Currently there are 1.2-million hectares of commercial forests in South Africa, which makes plantation forestry a major oxygen producer.

- Excessive soil erosion is prevented though their deep rooting systems and after harvesting soil loss is minimised by best management practices.

- Sustainable harvesting of timber plantations can help mitigate the effects of climate change. Trees store carbon in their trunks, branches, and leaves (above ground), their roots (below ground) in leaf litter and soil. Carbon remains stored during a tree’s lifetime and when it is harvested and processed.

- Young trees sequester (take up) carbon at a faster rate than older ones, making plantations often a far bigger carbon sink than existing indigenous forests. Research is underway to determine the contribution that plantations make to reduce carbon dioxide.

Many indigenous bird species have expanded their distribution in response to the favourable habitat provided by commercial forestry plantations. Between 25% to 30% of forestry owned land – 425,000 hectares - remains unplanted and this includes extensive areas of mainly grassland, fynbos, riverine ecosystems, and wetlands.

Nearly 25% of natural forests in this country is conserved in commercial timberlands. These strips or areas of natural habitat connect populations of wildlife otherwise separated by a host of transformed habitats like urban dwellings, mining, agriculture and forestry.

The forest owners work with environmental NGOs like WWF South Africa and Working for Wetlands, to improve the water course running through forestry owned and managed land and, in the process, improving the biodiversity.

Plantation forestry biomass is quickly becoming a renewable alternative to fossil-based fuels with contributions such as bio-fuels and bio-oils. Already, several local sawmills are burning off-cuts to generate the energy they need to run their mills and feed any excess into the national energy grid. While this does release carbon, this carbon was originally taken from the atmosphere, so its release is considered ‘carbon neutral’ and thus a greener alternative to fossil fuels.

The forestry and forest products sector have invested heavily in research, technology, and innovation to turn waste and by-products into low carbon products to provide added benefits for society.

These include products that are already available like thermoplastics, natural fibre dyes and essential oils. Future products currently in development include bio-plastics that have the potential to address global issues such as alternatives to plastic or metal. Wood technology has the potential to produce flexible LCD screens or make aviation safer thanks to their antifreeze potential.

Uses of forest products

- Roof trusses, timber joists, window sills, furniture, veneers, composite wooden panels including MDF (medium density fibre board) and chipboard, laminated carbon fibre, adhesives, asphalt, paints and dyes all have their origins in wood.

- A wide variety of every day foods contain “wood”, from yoghurt to chewing gum. Eucalyptus blossom is an essential winter food for honey bees, which are a source of income for forestry communities who have their own hives and honey harvesting initiatives.

- Cellulose, more commonly associated with paper making, is also an important component of texturisers and emulsifiers.

- Flavourings and preservatives are produced from lignin, and Xylitol, a low-calorie sugar alternative is derived from hemicellulose.

- The plastic coatings used for pills are a product of the lignin tall oil process, which also has cosmetic applications.
Commercial vehicle market bucks recession

The South African commercial vehicle market continues to defy economic trends by increasing overall sales by 2.3% year-on-year at the end of the third quarter in September.

According to the latest results released by the National Association of Automobile Manufacturers of South Africa (Naamsa), Associated Motor Holdings (AMH) and Amalgamated Automobile Distributors (AAD), a total of 19 939 new trucks and buses have so far been retailed this year.

“The initial growth seen in the Extra Heavy segment has now started to filter down to the Heavy and Medium Commercial Vehicle segments,” said Gert Swanepoel, managing director of UD Trucks Southern Africa.

“More specifically, sales to operators in the distribution industry, including long-haul, are driving growth, while demand from the mining, agricultural and construction industries have declined.”

Sales in the MCV segment are slightly down by 2.3% so far this year, for a year-to-date total of 5 730 units. HCVs are up 1.7% year-on-year to 4 039 units, while the EHCV segment increased by 5.9% to 9 391 new vehicle sales so far this year. Bus sales have declined to 779 units, a 1.9% decline.

“The sharp increase in diesel prices is a source of great concern to the transport industry,” said Swanepoel.

Swanepoel also said that it was encouraging to see that government and the automotive industry are currently formulating a roadmap to implement stricter emission regulations.

“Customers are looking towards more environmentally friendly transport solutions, and even though we as truck manufacturers can offer these technologies, local infrastructure needs to adjust to support it at this stage,” explained Swanepoel.

“With government and industry stakeholders taking hands to come up with workable solutions for the region, we believe the future of smart modern technology is here.”

Multiple technologies needed for fossil-free future says Scania

Battery electric vehicles will be instrumental in achieving a fossil-free commercial transport system by 2050 in line with the United Nations Sustainable Development Goals and the Paris Agreement.

However, biofuels used in internal combustion engines constitute the best near-term alternative.

“We are developing all alternative technologies bearing in mind their commercial viability,” says Christian Levin, head of sales and marketing at Scania.

“It would be futile to launch products that fail to meet the business reality of our customers. The basic premise must be that the technology offers a reasonable cost of ownership in the near term.”

The plug-in hybrid truck and battery electric bus, which are both exhibited at IAA, meet these criteria.

“Scania is well-positioned as the technology develops with more cost-effective solutions,” says Levin.

In a major study, Scania has recently explored several pathways towards achieving zero fossil emissions in the coming decades, ranging from full electrification to a portfolio of powertrain types.

The study shows that the rapid spread of electric vehicles will require four to five times more infrastructure investment relative to the present situation but will, by 2050, decrease operating expenses by 40 percent.
Cummins unveils the future of diesel

Cummins Inc introduced innovations that will achieve a low nitrogen oxides (NOx) emissions future and achieve a reduction in the carbon footprint, recently at the IAA Commercial Vehicles Show, held in Hannover, Germany.

The Cummins technology display features a concept emissions control system capable of minimizing emissions to levels previously thought unfeasible, including a possible next level of Euro VII regulations anticipated during the coming decade.

Combine this with the latest smart digital technologies and Cummins is representing the next leap forward in diesel engine evolution.

“This innovative system allows further reduction in NOx and PM emissions, while simultaneously improving fuel efficiency,” said Tim Proctor, Cummins executive director of product management & market innovation.

“Other innovative technologies under development by Cummins to reduce friction and parasitic losses will also continue to make the diesel engine even more productive and energy efficient.

Additionally, the use of enhanced design tools and advanced materials such as composites will bring opportunities to reduce component weight while retaining strength, further enhancing vehicle productivity.”

“While Cummins has a vigorous electrification program underway, our other key message at IAA is that the diesel engine is not standing still,” added Proctor. “With our technical advancements, we see diesel remaining as the primary source of power in the commercial vehicle sector for the foreseeable future.

“Cummins is committed to ensuring the power of choice is available for our customers’ many different vehicle types, duty cycles and business requirements.”

The concept emissions control system now under development by Cummins, combines the turbocharged air management with the exhaust aftertreatment as a single close-coupled system, together with a new rotary turbine control (RTC).

This new design fully utilises Cummins latest advances in air and thermal management to immediately convert almost all NOx emissions to clean gas as it interacts with the selective catalytic reduction (SCR) unit.

Advancements in hardware is not the only area of progress, Cummins continues to innovate with a smart connected suite of wireless monitoring, reporting, calibrating and servicing applications to help boost vehicle uptime and reduce the total cost of ownership.

Cummins is looking ahead to accelerate digital technology with over-the-air trim and parameter calibration, empowering fleet managers with the ability to customize power and speed settings to match unique business needs and driver behaviours, road conditions and geographic coordinates.

Cummins ADEPT™ technology suite also releases the full potential of powertrain automation to make every driver an expert and improve fuel efficiency by up to 6 percent.

Features such as Predictive Cruise Control utilise the vehicle GPS to see the road 2km ahead and precisely adjust speed ready for the upcoming terrain. SmartCoast places the driveline into neutral on downhill gradients using vehicle momentum to save fuel, while SmartTorque2 constantly calculates the exact torque needed for the truck payload to minimise downshifting.

In fact, battery electric vehicle growth offers the most cost-effective course of action in total abatement of fossil-fuel heavy transport.

By 2031, the total cost of ownership for battery electric vehicles will reach parity with diesel for all vehicle segments, including long-haulage.

Scania is committed to providing all technologies that can immediately help reduce CO2emissions. An adoption rate growth of new fossil-free powertrain technologies of at least 5 to 10 percentage points per year on average throughout the world is needed to achieve full sales penetration by 2040.

Source: futuretrucking.co.za
Timber sustainability in the built environment

Sawmilling South Africa executive director, Roy Southey, did not pull any punches in his presentation at the recent SALDEA convention when he highlighted the timber industry and in specific, the challenges faced by the industry today, with reference mostly on the built environment.

Sawmilling South Africa (SSA) represents sawmillers from more than 60 sawmills in South Africa processing approximately four million cubic metres of raw log per annum and two million cubic metres of lumber per annum, with a turnover of approximately R6 billion, and employing roughly 30,000, mostly rural-based people.

Of the lumber produced, approximately 75% is structural lumber, 20% is industrial lumber such as light industrial pallets, packaging and furniture, while 5% is destined for the export market.

“The industry is thus nearly entirely dependent on the local building and construction industry, and to a much lesser extent, the pallet, packaging and furniture sectors,” says Southey.

This means that the drying sector plays a pivotal role within the industry, as regulations require that all lumber to be used for structural purposes must be kiln dried.

According to Southey, the local construction industry has been showing only marginal growth lately, and that trend is expected to continue due to the projected weak economic growth rate of approximately 2% over the next five years, with the low-cost residential housing sector, funded by Government through the Department of Human Settlements likely to be the main contributor to growth over this period.

Of the timber used in the building and construction construction sector, timber trusses make out the vast majority of sales at 80%. The remaining 20% consists of light gauge steel, which is the number one threat to the local timber industry.

Timber under threat

Light gauge steel truss sales have been growing at an average of 22% per annum over the last three years, and this trend is set to continue as the low cost residential housing sector grows.

Light gauge steel trusses have managed to gain significant penetration in the local low-cost residential housing market, due mostly to technical specifications passed for low cost residential housing and the cost effectiveness of light gauge steel trusses for large scale projects.

It has also managed significant penetration into our traditional building and construction market due (trusses and wall panels) due to the stagnated and traditional building methods that are prevalent in South Africa.

The light gauge steel truss industry is part of the bigger light gauge steel framing industry which has been present throughout the world for the past 60 or so years, but is an emerging industry in South Africa.
While there is a lot of resistance in the local market for steel wall panels, light gauge steel trusses has been the main contributor to growth in the light gauge steel frame industry, accounting for about 30% of industry sales, and is being backed by the largest ‘truss player’ in the local market.

The steel truss and panel industry is set to continue to grow and increase market penetration in the next 5 - 10 years as the industry starts to mature in South Africa.

Thus, while the timber truss industry will continue to dominate the market, the is not likely to be any significant growth within the industry, mostly due to the rise of light gauge steel trusses, and the weak economic forecast.

This, despite the fact that timber trusses hold much higher socio-economic benefits for South Africans than do light gauge steel trusses - especially in marginalised rural areas.

According to Southey, one of the reasons why light gauge steel trusses are finding a foothold in the low-cost residential housing industry is that, while comparable in the formal segment, prices of light gauge steel trusses in the low-cost sector is about 20% lower than that of timber trusses.

“This is due to the fact that light gauge steel trusses are 60% lighter than timber trusses, and the fact that they can be assembled on site. This has an effect that transport costs for this product are significantly lower.

“The timber truss industry will have to come up with plans to make the transport of their products competitive.”

**Action required**

To minimise losses in the construction and building sector, sawmillers and truss erectors need to take a number of actions.

These include lobbying for a change in the technical specifications of low-cost residential housing to allow for the use of timber trusses, demonstrating the socio-economic benefits of timber trusses in South Africa, emphasizing the environmental credentials of timber, and supporting the creation of rural, black-owned timber truss assembly plants in rural areas, for sale to the low-cost housing sector as well as the public buildings sector.

They also need to design a cost effective solution for the assembly of timber trusses on government subsidized housing sites, invest in solutions to enhance the design elements of timber in the construction industry, promote a wood framing solution for wall and truss building as an alternative method of construction, and promote the benefits of timber to both professionals and consumers.

**Conclusion**

The entire forest products sector needs to work together to change the perception that timber is running out in South Africa, that it is of inferior quality, a fire problem, and more expensive.

Industry, Government and Universities need to collaborate in the development, manufacture and use of new wood based Products, and vigorously promote wood and its environmental credential.

Common misperceptions about timber in the building and construction markets are:

- Timber is not as long lasting as brick and mortar
- Lower entrenched value (resale)
- Maintenance costs are higher
- Only used for joinery and furnishing
- Chiefly suitable for holiday accommodation
- Higher security risk
How to dry wood is a global challenge

Wood drying in developing countries was the theme of the 13th International IUFRO Wood Drying Conference held late last year in Istanbul, Turkey.

Richard Muller of Nelson Mandela University (NMU) in George was the only South African presenter at the conference and his talk on the operational performance of a low-cost solar hardwood drying kiln using natural dehumidification provoked a lot of discussion.

Muller presented an overview of the IUFRO conference at the SA Lumber Driers Education Association (Saldea) conference recently held in Johannesburg. He says the role of wood is constantly changing with constant innovation in the application of wood as a bio-based material. Whatever form it takes, drying the wood remains a global challenge.

Muller then presented a technical paper to the lumber driers on how various heat treatments can modify the properties and characteristics of wood.

Treatment process

Traditionally, various commercial treatments are used to treat sawn timber. Muller described how several species were exposed to different processing conditions and how this impacted on the end user of the products.

Temperatures used range between 160°C and 240°C under different conditions of green, semi dry or dry wood. Other variations in conditions include shielding gasses, like nitrogen or steam, humid or dry processes or the use of oils.

In 2007, the 130 000 cubic metres of wood was treated in Europe, and by 2013 it had reached 280 000 cubic metres. It appears that there are seven different processes used, namely:

- Thermowood (Finland)
- Plato (Netherlands)
- Oil heat treatment (Germany)
- Bois Perdure and Retification (France)
- WTT (Denmark, using pressurised steam)
- Huber Holz (Austria).

Thermowood

Muller highlighted the Thermowood process, as it is the most common. The wood is exposed to a non-pressurised vapour filled atmosphere, with less than 3-5% oxygen and a temperature above 150°C for 2-10 hours to reach a moisture loss of more than 3%.

The usual process starts with stacking the timber in a drying kiln and exposing the timber to a constant temperature rise to 130°C. This high temperature drying of the wood persists until the timber is nearly at 0% moisture content.

Air speed through the chamber is more than 10 m/s. The heat treatment with superheated steam is maintained at between 185°C and 215°C for between two and three hours.
The constant temperatures are:

- Thermo-D (higher durability): 212°C for conifers and 200°C for hardwoods.
- Thermo-S: 190°C for conifers and 185°C for hardwoods.

The last phase consists of cooling the kiln with water spray and thus dropping the temperature to about 85°C. Timber will gain moisture to reach moisture content of 4-7%.

Chemical changes to the wood

Heat treatment will degrade the cell wall composition and extractives in the timber. The magnitude of changes depends mainly on the treating temperature, and the duration.

The most sensitive cell wall compound, when exposed to heat treatment, is hemicellulose, as this is the first cell structure to be thermally affected. Pentoses and hexoses (major hemicelluloses groupings) degrade to furfural and hydroxymethyl furfural.

The degradation of hemicelluloses occurs as a dehydration reaction that breaks down the hydroxyl groups (OH) and bring about a reduction in available sorption sites for water molecules to attach to.

Cellulose is less affected due to its crystalline structure. However, the amorphous regions will be more degraded; particularly the hydroxyl (OH) sorption sites and decreases the accessibility of water to attach to these sorption sites.

The crystallinity of cellulose increases as a result. This will lower the EMC of the wood. Lignin is little affected and shows minor initial changes. Extractives disappear or degrade under heat treatment, especially the volatile components like gum and resin.
Some of the degradation products of both extractives and polysaccharides (cell wall components of cellulose and hemicelluloses) can form new compounds. Sugars and starches will also degrade with heat treatment.

Typical products that form during these heat treatments are:
- furfural acid
- hydroxymethyl furfural
- toluene
- phenolic hydroxyls
- acetate esters
- methanol
- a range of formic and acetyl acids.

Equilibrium moisture content (EMC)

Heat treatment will decrease the EMC of timber and accordingly its shrinkage and swelling. The improvement is influenced by temperature, duration, type of treatment and species.

This is because less water is adsorbed by the cell wall due to the decrease and inaccessibility of hydroxyl groups. This is the result of removal of hydroxyl groups in hemicellulose and the increase in crystallinity of the cellulose.

Durability

Heat treated timber is more durable against fungi than untreated timber because:

- Some molecules formed under heat treatment, like furfural, can reticulate with lignin and the fungal enzymatic system does not recognise the usual feed, and therefore does not degrade it. Also, esterification of cellulose occurs as acetic acid forms when hemicelluloses degrade.
- Heat treated wood has a lower fibre saturation point (FSP) and the resulting EMC is lower. It is lower than the threshold point for fungi, which is about 20% MC. Additionally, the hemicelluloses transform from hydrophilic to hydrophobic molecules.

Rot resistance is improved by between 35% - 65%, with the higher temperature more effective. The durability increased first for soft rot, then for white rot and then brown rot (the best performance). The results are equivalent to 1% retention in CCA treated timber.

Thermowood proves to be the best, followed by Plato and OHT and then Rectification.

Higher resistance is experienced against the wood borers Hylotrupes bajulus, Lyctus brunneus and Anobium punctatum. In general, there is no significant change in durability against termites when treated with the OHT process, though it shows a little more preference to untreated wood.

Mechanical properties

One of the main restrictions of heat treated timber is the decrease in mechanical strength. The most affected are the resistance to bending (Modulus of rupture – MOR) and impact bending.

<table>
<thead>
<tr>
<th>Specie</th>
<th>Radial swelling difference</th>
<th>Tangential swelling difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beech</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>Birch</td>
<td>33%</td>
<td>23%</td>
</tr>
<tr>
<td>Spruce</td>
<td>11%</td>
<td>40%</td>
</tr>
<tr>
<td>P. radiata</td>
<td>35%</td>
<td>40%</td>
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</tbody>
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Rapid drying systems have limitations

The limiting factor in any rapid drying systems is the capacity of the wood structure to allow moisture to flow. Regardless of how fast the drying method can transfer heat into the lumber, drying is limited by the speed at which moisture can move from inside to outside the lumber.

Professor Diego Elustondo, from the wood physics department at Sweden’s Luleå University of Technology’s division of wood science and engineering, says there is evidence that lumber with thicknesses smaller than 1-inch can be dried with acceptable quality in less than two hours by using rapid drying technologies.

However, for lumber with thickness greater than 2-inches, the same technologies require drying times in the order of several hours.

Elustondo was one of the keynote speakers at the 13th International IUFRO Wood Drying Conference held in Turkey last year.

He says rapid surface heating can over-dry the surface and produce casehardening. Casehardening induces surface checks in the early stages of drying and these may develop into internal checks in the final stages.

Rapid volumetric heating does not produce casehardening, but it is more likely to produce internal checks because of the generated temperature, pressure and stress.

“Therefore, even if many different rapid drying technologies are available, conventional kilns still seem to be the most practical and cost efficient drying technology for commercial applications,” says Elustondo.

“Short term innovation in wood drying will come mainly from modifications in conventional kilns to cover a more diverse range of industries, species and products than the ones that are processed today,” he explains.

“This is especially true for hardwood species, since there are still hundreds of species that cannot be processed into solid wood products due to their inherent difficult-to-dry characteristics. Innovations will come from areas such as kiln design for drying smaller volumes, innovative control strategies, and multivariate analysis for process optimisation.”

Elustondo says there are innumerable tree species around the world that cannot be commercially processed into wood products because they are difficult to dry in conventional kilns.

“A good example is Eucalyptus nitens in Chile. It is predicted that by 2040 there will be more than 7-million cubic metres a yar of E. nitens in Chile available for commercial uses.

But the prospects of developing solid wood products are limited because of the inherent difficulty of drying this particular species,” he explains.

“Researchers around the world will continue improving the current drying practices and developing new drying technologies for local species that are still a challenge for the wood manufacturing industry.”

Elustondo presented a literature review on some of the methods and technologies that have been tested in the past to accelerate wood drying.

These include:

- Pre-treatment
- Boiling in oil
- Solvent drying
- Infrared radiation
- Ultrasound
- Radio frequency
- Microwaves
- Continuous drying
- Jet impingement
- Ultra-high temperature drying
- Press drying
Located in Hanover, Germany, and represented locally by The Nukor Group, Hildebrand has been serving the International wood industry with drying kilns for more than 50 years.

Their dry kiln solutions are based on decades of experience in the highly demanding lumber drying market of the sawmill industry worldwide. This experience and expertise ensures that their customers are able to receive individual dry kiln solutions tailored to the needs of each sawmill.

They manufacture a complete line of dry kilns – conventional kilns (forklift and track loaded for softwood and hardwood), continuous kilns, steamers, heat-treating, pre-dryers, vacuum dryers and various types of kiln controls with on-line service. Each year, they invest a significant percentage of their turnover into research and development, in cooperation with the University of Hanover to improve and develop drying technologies that will assist mills who are on the look-out for new ideas and opportunities for a better bottom line.

This also applies to one of their most recent developments, the Hildebrand Alternating Climate, which is a great way of saving large amounts of energy in the kiln drying process. With their special feature Alternating Climate, lumber is alternately exposed to harsh (but still uncritical) drying conditions followed by mild climate and reduced or even switched off air flow. This puts lumber through carefully calculated “stress and relief” intervals with the benefit of improved grade and lower cost of electrical energy. Hildebrand also recently introduced a highly efficient continuous kiln, the Hildebrand Continuous Kiln Alexander (HCK-A).

This type of continuous kiln is designed for mills that produce large volumes of lumber products, for example dimension softwood.

It’s structure is entirely made of aluminium which is considered the material with the best combination of stability, longevity and cost-efficiency (stainless steel also available). While designing the Hildebrand HCK-A, they placed great emphasis on creating exactly the right drying conditions (temperature, climate, air speed) for the respective lumber moisture content.

Lumber is placed length-wise on carts and rails and dried during transport through a number of zones with separate climates. Ultimately, lumber will be dried in their continuous kiln HCK-A just as it would be in a conventional kiln. The technical features of each individual drying zone are perfectly customized to the drying state and moisture of the lumber packages passing through.

All of the HCK-type kilns feature the highly efficient Hildebrand Greenkilns technology which allows large savings of thermal energy by connecting the individual drying zones to one big thermal compound where excess heat from certain drying zones is guided to drying zones in need of additional heat.

This way, thermal waste is greatly reduced. Another energy-saving HCK feature is the Hildebrand HTT turbo-baffle system which is based on height-adjustable aluminium baffles.

These baffles are constantly repositioned vertically as computed by the control system, thus shutting off the air flow from parts of the lumber stack for a predetermined time span. While drying in the screened section continues through vapour pressure differential between the core and the surface of the lumber boards, air velocity in the exposed sections is almost doubled. This allows shorter drying times with less...
consumption of electrical energy while still achieving the highest lumber quality.

Typically, all Hildebrand HCK continuous kilns come with an integrated control room on the upper floor of the kiln, directly beneath the roof section.

This design ensures cost-effective installation of electrical supply cables and heating pipes as well as maximum protection against weather conditions. High-grade wall and roof insulation minimizes thermal loss while the outside aluminium sheets blend in harmoniously with the rest of the kiln building.

As an additional option, Hildebrand continuous kilns can be equipped with hydraulic or pneumatic aluminium pressure frames in each individual drying zone.

Pressure frames are lowered onto the top package of the lumber stacks, thus providing excellent stability while eliminating any warp of the top layer of boards.

In short, Hildebrand HCK continuous kilns bring about essential benefits:

- Continuous volume feed to bring the lumber product quicker to the market
- Integrated with the logistics of the mill
- Multitrack, flexible, and able to dry different species or thicknesses within the same kiln
- Volume drying at the lowest possible cost
- Maximize grade yield
- Optimized energy efficiency in-line with green initiatives and applicable to funding programs
- Scalable
- Adapted to any heat source and heating medium.
Dry kiln operator - a new era

Dr. Peter Stöhr from the Timber Drying Institute did presentation to the recent SALDEA convention on the development of a new Kiln Operator qualification currently under development.

Kiln drying is perhaps the most difficult and intricate operation in any sawmill or furniture operation, according to Dr Peter Stöhr from the Timber Drying Institute.

Simply because it requires a large knowledge base and applied high skill levels. To put it in a nutshell, it requires

- **Wood knowledge**: Wood properties and their impact on drying and drying defects.
- **Engineering knowledge**: Different drying kilns, kiln components, steam and hot water systems, boilers and kiln control systems.
- **Drying knowledge**: Behaviour of timber species during drying; drying conditions; drying schedules; specialised kiln treatments; and drying stresses.
- **Financial knowledge**: Understanding and applications on profitability of the drying operation.
- **Communication skills**: Interaction between different production centres to ensure efficient drying operations; and being part of an interlinked team.

“In the USA for example, kiln operators are of the highest paid personnel in their sawmilling operation as they recognise their value in making the sawmill profitable,” says Stöhr.

“In contrast, in the South African context, the timber processing industry does not seem to recognize that the drying operation directly impacts on their financial bottom line. Hence general use is made of only partly trained kiln operators.”

Furthermore, says Stöhr, the latter is often only made responsible for specific tasks of a drying operation, with in some cases only pushing the stacks into a kiln and pressing the start button on the kiln control system.

Some oversight function is further generally allocated to a production or quality control manager. The latter is, however, busy with many other responsibilities that only scant attention is given to the drying operation.

“It then also comes as no surprise that the full financial benefit of the drying operation is not realised, nor of the importance of proper management of the complete drying operation.”

Perhaps history has a part to play, since, in South Africa, labour and logs were traditionally relatively inexpensive.

“This is, however, not the case anymore, as in addition, it is increasingly realised that the maximum value must be obtained from logs and of sawn boards.

“Furthermore, the personnel that went through kiln operating training programmes did perhaps not meet the expectation of industry.
This could possibly be in part due to the differences in course contents and varying standards applied by training providers.” But, according to Stöhr, the main shortcoming in existing kiln operator training programmes in South Africa, is the fact that learners are not given enough time to hone their skills in an industrial environment similar to the one they will likely be required to work in once qualified.

Stöhr says that learners are currently given only two to three weeks of practical exposure, which leads to a “complete lack of opportunity to hone their operating skills.”

Stöhr praised Sawmilling South Africa (SSA) for their efforts in addressing this and other industry related issues, which resulted in funding from the National Skills Fund, which was paid through the Fibre Processing and Manufacturing Seta, for the development of industry specific curricula.

“The money allocated is being used to fund the development of a curriculum and course material for Kiln Operator as well as for Sawdorctor, and for required skills at other production areas at a sawmill,” says Stöhr. “This bodes well for our sawmilling industry.”

So, what does this new era entail?
It provides complete formation incorporating the following: • Knowledge Modules that address all aspects of timber, kilns and of drying, as well as all aspects required in a sawmill environment e.g. health, safety, quality, basic business principles, as well as computer literacy; • Practical skill modules that teaches the ‘How’ of the Knowledge modules; • Periods of work under supervision at accredited sawmills so that learners can ‘hone’ their skills; • It is an occupational qualification with 366 credits. The Quality Council for Trades and Occupation will do the final assessment of the candidates and if successful present them with an Occupational Certificate.
• Persons qualifying as Kiln Operator will be internationally recognised
• In the process of being trained as a Kiln Operator one can also obtain a part qualification as either a dry kiln stacker and/or a kiln material handler

A team of about 15 persons from industry, service providers and relevant experts will oversee the development of the course material and its implementation.

“The new program for Kiln Operator training can become a reality already in mid-2019 and one trusts that industry will see the value of making full use of it.”
Edward Ehlers from TF Design gave an interesting presentation during the recent SALDEA conference. According to Ehlers, only about half of the timber volume arriving at South African timber sawmills for processing becomes a finished product. The remainder is residue, or otherwise known as, woody biomass.

The woody biomass residue is a byproduct of debarking, wet- and dry-milling processes and general plantation upkeep.

The timber chip component of the biomass is usually sold to the particle board industry, and a portion of the woody biomass is used to generate steam/hot water for use in timber drying kilns.

Timber sawmills have a difficult task to find markets for the remaining woody biomass, and in many cases, the disposal results in an environmental challenge.

As carbon fuel costs increase, companies in general industry are evaluating alternative fuels for their energy requirements. Biomass is not only an excellent alternative to coal & HFO, but it’s also sustainable if managed correctly.

The combustion of woody biomass is virtually carbon neutral when compared to the combustion of alternatives like coal, HFO, or other fuels.

In addition to lowering energy costs, a company has the added benefit of reducing their carbon footprint when using woody biomass as fuel.

In the future, the value of woody biomass will be determined by the energy value (calorific value) of the fuel, and the benefit that companies can get through carbon tax rebates.

The limited supply of woody biomass will also be a driving factor that will increase its value as more companies compete for the same limited resource.

As a result, it’s becoming essential for sawmills to notice the income potential when offsetting some of their woody biomass to companies that are not normally associated with the timber industry.

As the market develops, it will become more important for sawmills to ensure that they combust their woody biomass (to generate steam/hot water for their energy needs at their mills) as efficiently as possible so that they have quality woody biomass available to sell.

Optimized woody biomass combustion can be achieved by ensuring:
- A consistent mix of timber biomass regarding size, consistency and moisture content used for combustion.
- A controlled flow of biomass into the combustion chamber without the ingress of unwanted excess air (oxygen).
- Proper distribution of biomass over the complete combustion area inside the furnace.
- Sufficient combustion temperatures and residence time for biomass and volatile gasses inside the furnace to ensure complete combustion.
- Air (oxygen) introduction at strategic positions in the furnace to support the combustion process.
- Automated active control over the combustion process by a control system that is optimized for combustion efficiency.

Various technologies can be used to improve the combustion efficiency of existing installations - Some include:
- Active boiler flue gas oxygen monitoring. (Provides insight into the actual air to fuel mixture inside the combustion furnace/process.)
- Isolated fuel (woody biomass) supply systems that prevent air ingress at the biomass feed system.
- Location, size, and proportional control of forced draft (FD) fans used to introduce combustion air into the furnace.
- The temperature of the FD combustion air added to the combustion furnace.
- Overall condition of the refractory inside the furnace (Used to radiate thermal energy/heat towards the woody biomass (fuel) during combustion.)
- Location and type of furnace temperature probes.
- Effective boiler control system that can monitor all the measured variables and react accordingly.

The benefits of optimal woody biomass combustion include:
- Optimal use of woody biomass as fuel (minimize cost of input fuel while maximising usable thermal energy (steam/hot water))
- Clean flue gas emitted from chimney stacks.
- Reduced flue gas particulate matter.
- Reduced overall dependance of coal and other fuels.
- Reduced carbon footprint.

As the market for woody biomass develops, the inherent value of the resource as an alternative fuel to coal, HFO and others will increase.

The only drawback at this stage is that, although relatively abundant at present, the timber biomass resource is limited, and only a few early adopters will benefit.

TF Design has years of industry experience in the development, installation and commissioning of woody biomass boiler systems and can develop a tailored solution that will optimize your existing or future woody biomass combustion installation.
Effective steam systems

By Andrè van Niekerk, Gauteng and regional export manager, Spirax Sarco

Steam is one of the most environmentally friendly, cost-effective utilities that can be used for heat, curing and sterilisation processes in virtually every area of industry. Industries such as Food and Beverages, Paper and Pulp, Timber (just to name a few) are all reliant on the correct manufacturing of steam and the controlling of steam processes and systems.

Our customers in the various industries are facing ever-increasing competition, rising fuel costs, more stringent health and safety regulations and mounting environmental pressure.

Spirax Sarco’s aim is to work with our customers to identify areas of improvement in their steam systems, with the objective of increasing performance and efficiency as well as to reduce energy costs.

Through use of our knowledge, service and products we aim to help our customers maximise profits by providing sensible solutions to better steam engineering; whether that be replacement of parts or total system management.

Boiler house

A well designed, operated and maintained boiler house is the heart of an efficient steam plant.

However, a number of obstacles can prevent this ideal: incorrect boiler operations, poor quality fuel used and poor water treatment, all of which can cause a decrease in efficiencies, increase in operational costs and lead to poor steam quality supply to the plant.

Boiler operators need to ensure that their boilers are operated at its designed conditions, supplied with high temperate treated water (approx. 80°C) and that the correct Total Dissolved Solids (TDS) levels are maintained.

Correct bottom blowdown procedures will also reduce treated water wastage.

All of this will enable the boiler to perform at its optimal level and respond to any unexpected demand.

Steam distribution

The steam distribution system is the essential link between the steam generator and the steam user.

An efficient steam distribution system is essential if steam of the right quality and the pressure is to be supplied, in the right quality, to the steam using equipment.

Great care needs to be taken in the sizing of steam mains and branch lines in order to avoid high excessive velocities and large pressure drops throughout the system which could lead to steam starvation at the steam using equipment.

Steam separators and steam traps need to be fitted throughout the steam distribution system to eliminate any water carry-over from the boiler, as well as condensate that will form within the steam system.

It is essential to drain the steam lines from any water as this will lead to waterhammer.

Waterhammer is the noise caused by the slugs of condensate colliding at high velocity into pipework fitting, plant, and equipment.

Indications of waterhammer include a banging noise, and perhaps movement of the pipe. In severe cases, waterhammer may fracture pipeline equipment with almost explosive effect, with consequent loss of live steam at the fracture, leading to an extremely hazardous situation.

Steam traps are an essential part of any steam system. It is the important link between good steam and condensate management, retaining steam within the process for maximum utilisation of heat, but releasing condensate and incondensable gases at the appropriate time.

The duty of a steam trap is to discharge condensate while not permitting the escape of live steam. A steam trap quite literally “purges” condensate, (as well as air and other incondensable gases), out of the system, allowing steam to reach its destination in as dry a state/condition as possible to perform its task efficiently and economically.

The quantity of condensate a steam trap has to deal with may vary considerably.

It may have to discharge condensate at steam temperature (i.e. as soon as it forms in the steam space) or it may be required to discharge below steam temperature.
Steam pressures at which steam traps can operate may be anywhere from vacuum to well over a hundred bar.

To suit these varied conditions there are many different types, each having their own advantages and disadvantages.

Experience shows that steam traps work most efficiently when their characteristics are matched to that of the application. It is imperative that the correct trap is selected to carry out the given function under given conditions. There are therefore no ‘one-trap-fits-all’ applications.

There are three basic types of steam trap into which all variations fall, all three are classified by International Standard ISO 6704:1982 and they are:

- Mechanical type traps: Operated by changes in fluid density
- Thermostatic type traps: Operated by changes in fluid temperature
- Thermodynamic type traps: Operated by changes in fluid dynamics

An effective condensate recovery system, collecting the hot condensate from the steam using equipment and returning it to the boiler feed system, can pay for itself in a remarkably short period of time.

Condensate and flash recovery systems recover as much energy as possible which otherwise would have been wasted to atmosphere/drain.

Recovered condensate will be hot and treated water which means that less cold make-up water needs to be added to the feed tank and less chemicals will be used in the reconditioning of the feed water, as condensate is pure of impurities.

Flash steam can be utilized as low pressure steam and therefore reduce the demand of steam from the boiler.

**Steam control**

As previously mentioned, boilers need to be operated at their designed conditions.

More often than not, boiler operating pressures will be much higher than what is required at the steam using equipment. For this reason, we need to reduce the pressure at the point of use.

The advantage of providing the plant with high pressure steam, and only reducing at the point of use, is that the steam distribution system can be smaller due to the volume of steam at high pressure and improve steam quality. This will have a financial benefit as the pipework and all associated pipeline ancillaries will be smaller.

Pressure reducing valves and control valves are required for controlling steam pressures, steam flow and process control. Selecting the correct type of control valve will ensure that the process is operated without any oscillation.

There are three main reasons why process plant require automatic controls:

**Safety:**
- The plant or process must be safe to operate.
- The more complex or dangerous the plant or process, the greater is the need for automatic controls and safeguard protocol.

**Stability:**
- The plant or process should work steadily, predictably and repeatably, without fluctuations or unplanned shutdowns.

**Accuracy:**
- This is the primary requirement in factories to prevent spoilage, increase quality and production rates, and maintain comfort.

Control is generally achieved by varying fluid flow using actuated valves. For fluids: steam, water and compressed air, the usual requirement is to measure and respond to changes in temperature, pressure, level, humidity and flow rate.

**Conclusion**

In our 104 years, we have seen our customer’s businesses change, and their need to focus on their core business has increased.

Spirax Sarco has developed and evolved our business to meet these needs, so with our expertise in steam, we have harnessed specialist areas of knowledge, in terms of products and industry applications.

Our expertise ensure that you receive the highest level of technical advice and commitment from Spirax Sarco to optimise your plant’s performance.
Reduce drying costs per cubic metre with Termolegno

Paolo Pocecco, the export area manager for the Italian supplier of lumber drying technologies, Termolegno, says the company designs and manufactures “green addicted” drying kilns that add value to the world’s only renewable source of raw materials.

“Termolegno decided to participate in trade shows in South Africa, Kenya and Gabon because our vast experience in 57 countries makes us the leading producer of lumber drying, seasoning, steaming, and heat-treating equipment. We put our customers first and continuously invest in state of the art technology that enables us to design and produce drying kilns that save energy and optimise drying cycles and the quality of products,” explains Pocecco.

The company is not new to South Africa, and its most recent activity has been the installation of six kilns at Solid Doors between 2005 and 2010. The system assists Solid Doors in its business of manufacturing high quality wooden doors.

Since it was established in 1994 by the Fornasier family, demand for the “100% designed and made in Italy” company’s expertise has grown enormously. It has expanded its production area to over 8000 square metres, installed its products in 55 countries and appointed 35 representative agencies.

Pocecco explains that every installation is uniquely customised to meet the needs and preferences of the client.

The product range includes:
- Conventional drying kilns with temperatures up to 75/80°C and 90/95°C
- Tunnel kilns
- Pre-drying kilns
- ISPM-15 heat treatment drying kilns for wooden packaging
- Direct and indirect steam systems
- Combined drying-steaming kilns
- Energy saving systems featuring heat recovery, monitoring, and tracking of thermal and electrical consumption and devices for adjusting the speed of the air
- Wood waste boilers (sawdust, chip, wood chips, bark) to produce hot water +95°C, +110°C, +120°C or steam
- Gas boilers (natural gas or LPG) or diesel fuel to produce hot water or steam
- Aspirated direct gas burners (natural gas or LPG)
- Direct oil burners blown type
- Turnkey systems including drying kilns, boiler or heat generator, complete hydraulic system from the heat generator to the drying kilns, technical room, and the room housing the boiler

Optional features can be added to the standard platform. These include 8/24 phases, an energy kit to monitor electricity and heating consumption, and the advanced drying kit that makes a drying time projection that it autonomously activates to either speed up or slow down the drying cycle.

Anemometers can be added to detect and change the air flow speed, temperature and humidity rates inside the stacks, and the HT Kit is an option for the ISPM-15 phytosanitary treatment.

Pocecco emphasises the importance of customer after sales care. Termolegno ships spare parts as quickly as possible to its clients anywhere in the world, on-site technical support is augmented by remote technical support, software updating, and there is a drying programme consultancy service.
South Africa’s path to dry kiln success

Henco Viljoen, co-owner of Timbersoft in South Africa, is passionate about timber drying. He inherited this passion from his father, mentor, and co-partner, Johan Viljoen. Together they have developed customized drying systems for fine tuning, improving, and upgrading kilns.

The result? Their client sawmills in South Africa are now generating greater productivity, higher quality products, and increased profits.

“Our main business is optimizing the drying process,” says the younger Viljoen, who works from Sedgefield in the Garden Route section of the Western Cape.

“Our strong suit is my father’s 50+ years hands-on knowledge, not only of drying, but the sawmilling industry as a whole, and my 20-year wood technology/IT automation background.”

When Johan retired from milling in 2005, he decided to use his hands-on approach in helping other mills to improve their kiln drying. But he quickly discovered a problem – mills were now very technology driven, using computers, PLC and SCADA interfaces. He soon realized that processes happen behind the scenes in software code that he had no control over.

This is where Henco got involved. With his IT knowledge, the Viljoens installed their first PLC/SCADA based kiln controller in late 2005. Installations and upgrades followed at regular intervals. The client base grew, and by 2013 Henco joined Timbersoft on a full-time basis after a career in IT and automation.

In 2013, Henco started a small research project where he combined solar and heat pump technologies with their PLC and SCADA system to dry hardwoods “smokeless without a boiler.”

The kiln dried Eucalyptus boards, which normally dry in four weeks, in less than two weeks.

This technology opened up many more advancements, including the development of smoke/boiler free drying and ISPM15 heat treatment systems.

“It also allowed me to make an in-depth study of the drying process, dynamics, and controls, enabling me to really improve our drying system by leaps and bounds. We used Johan’s vent cycle approach and developed a dynamic, self-adjusting schedule.

“Although not yet 100% foolproof, we are very close. The system keeps improving. The goal is to leave the operator with only a start button. The program does the rest and stops at target moisture content (MC%). The operator won’t have to make any decisions,” Viljoen remarks.

Since Henco joined the company full time, the business has grown by more than 300 percent and is still growing.

Kilns running their system are currently drying more than 400 000 cubic meters annually.

Measuring Moisture

Moisture measurement is an integral link in the drying management chain – and forms part of Timbersoft’s Process control. For that very important reason, Timbersoft relies upon moisture measurement.
Viljoen says a moisture meter in the hands of a kiln operator is like a calculator or Excel spreadsheet in the hands of an accountant. Neither can go without it.

Viljoen personally uses a Wagner L606 handheld meter to measure moisture in the kilns because of its speed, accuracy, dependability, consistency, and ease of use. Many of his clients use Wagner’s MMC220, L612 and L622 models, and the L722 stack probe for exactly these reasons.

“The Wagner brand is very big in South African sawmilling, and with good reason,” says Viljoen.

“If you think capacitance moisture meter, Wagner is the first name that comes to mind. Even in student literature used by Nelson Mandela Metropolitan University’s Wood Technology course, the Wagner is used as an example of a capacitance meter.”

“You don’t hear of a Wagner meter that just stopped working,” he adds.

While in-kiln moisture meters are important in achieving excellent results, Viljoen believes that MC alone should not be used as the only guide to where the schedule should be.

However, for stopping at a desired final MC, it cannot be beaten.

“The way the moisture evaporation rate in the timber reacts to a set point should be taken into consideration.

“This can be seen by observing how your vents react to a set point, but only when preparation, process control, and maintenance remain constant.

“If you have the in-kiln moisture measuring facility and you know how to interpret all the information your kiln controller is giving you, then you are on the road to becoming the best kiln operator a boss could ask for,” Viljoen declares.

High-Tech Advisory
Because the Viljoen team is highly knowledgeable about using technology to dry timber, Timbersoft has achieved exceptional success.

However, he cautions that operators who do not know how to interpret the information provided by high-tech systems can block improvements.

“A kiln operator should be more skilled than just able to see the dry bulb is running low (call the boiler room), or the wet bulb is running high (fix water issue/check probe), or the in-kiln target MC% is reached (pull the timber),” he declares.
The new high-tech systems have made kiln drying more graphic, and for a good operator with a clear understanding of these systems, it should be considerably easier.

But for operators who lack this understanding, Viljoen says the ease of changing multiple variables can and has been catastrophic. “Kiln operators who use high-tech systems should never make more changes to a schedule than what they can accurately identify the outcome of,” he remarks.

“Make a study of your kiln controller. Don’t just accept everything it presents you with. Try to figure out the logic it’s applying.

“More often than not, the programmer has no idea what kiln drying is about. The same applies to the kiln expert – he/she often has very little idea what programming is about.

“The operator needs to ask questions because the more he knows and understands, the more he’ll realize how little he knew when he started,” he adds.

**Kiln Drying Management**

Viljoen says there are five points of drying management. If one of the first three changes, then the schedule optimization is affected. The first three points include preparation, process control, and maintenance. Preparation involves sawing accuracy, board dimension, and stacking procedures. Process Control involves airflow, energy distribution and management, humidity control, and venting, and maintenance involves electrical, mechanical, instrumentation, and structure.

“When any of those three changes, it affects the dynamics of the kiln. This affects the rate at which moisture leaves the timber – meaning that the MC is not yet where it’s supposed to be at that stage in drying.

“An MC-based schedule is more forgiving, as it is supposed to only progress to the next stage of drying when a certain MC is reached.

“A standard time-based schedule, however, won’t know what to do. This is why it is of utmost importance that a kiln operator spots these abnormalities on the process graph and have the authority to stop the kiln and have it fixed,” Viljoen says.

**Achieving Higher Profitability**

Quality control is essential for production yield and profitability. And one of the key factors in a good quality control program is moisture management.

Inaccurate readings can lead to delays, low yields, and poor grade inspections. That is why Timbersoft considers kiln moisture monitoring, using the Wagner moisture meters, to be part of their overall success.
Focus on: Owen Burns: custom sawmiller

Owen Burns is based in Queensland, Australia and owns timber craft and timber services business, Orb Timbers.

As well as providing custom sawmilling to the Eungella area using his Peterson WPF and DWS, Owen also provides timber treatment, sanding and storage as well as uses his artistic skill to make high quality custom furniture and wooden articles for your home.

Owen founded his business, ORB Timbers, using his Peterson 10” WPF and DWS mills, which provides high-quality timber services and beautifully crafted custom made furniture and wooden articles for clients.

Owen’s dream of working with wood did not happen overnight. It was with a lot of hard work and dedication that got him deserving where he is today.

The first real taste Owen got for working with wood was when his father salvaged a large amount of Red Cedar to build a tourist resort on their family farm. It was at this time, Owen could only dream of turning his love of wood into his main source of income; he thought it would only ever be a hobby.

Figuring the best way to affordably get timber was to salvage and cut it himself, the dream began to take form.

“Working hard and saving money allowed me to buy the gear I needed, and my passion did the rest.”

Owen’s first major investment was to be a sawmill, and because of his ability to salvage timber Owen needed it to be portable. Prior to investing in a sawmill, Owen researched thoroughly and discovered that he didn’t trust the accuracy of the band saw mills, and was not impressed with the stability of some of the portable swingblade mills in the market.

Owen had seen the Peterson Portable Sawmill website and had also come across a Peterson demonstration at the Brisbane Timber Expo and found that the Peterson mill had everything he was looking for.

After contacting the Peterson Portable Sawmill factory in Rotorua, New Zealand, Owen decided to purchase a 10” Winch Production Frame (WPF) swingblade sawmill for cutting accurate dimensional timber, as well as a Dedicated Wide Slabber (DWS).

The WPF was an ideal sawmill for Owen’s small business because of its ease of use by a single operator.

With one winch at the operator’s end, Owen is able to adjust the height of the tracks in one movement, giving him more time to ensure he gets the best out of his valuable salvaged timber.

The DWS, a purpose built slabbing unit, gave Owen the ability to cut slabs up to 1.5m wide for custom milling jobs or for his own requirements. Fitted with its own motor, gearbox, bar and chain, and using a 404 ripping chain, the DWS can produce up to 30 slabs per hour.

A 10” circular blade is fixed to the WPF and requires very little maintenance - depending on the type and condition of wood being cut. With Owen’s remote milling locations, he appreciates the ability to sharpen his blade on-site in less than five minutes, using the sharpener supplied with every Peterson mill purchased.

Many milling locations have obstacles Owen has to overcome. Working in hill country required a slight modification to the mills, by way of an extension to the track legs to allow Owen to use them on extremely uneven ground. “The only flat ground in Eungella is on the side of the hills.”

As someone who conducts many of his milling jobs on his own, one of Owen’s favourite features of the Peterson sawmill is it’s ‘wheel barrow-like’ function for loading and unloading. Jockey wheels fit to the frame of the mill’s centre unit which houses the heavy motor, enabling him to maneuver the centre unit to his desired location.

The tracks of the mill can be separated into sections and are made of aluminium, making them light enough for him to lift the sections into place.
Achieve higher performance with the Wood-Mizer LT70 WIDE Sawmill - now with optional WIDE head and WIDE blades!

Wood-Mizer introduces new options for a WIDE head and WIDE 50 mm blades on the high production LT70 hydraulic sawmill.

For sawmillers who need more capacity, the LT70 is now available with a WIDE head to cut larger logs, wider boards, and wider cants. The WIDE saw head increases the maximum width of cut to 86 cm.

In addition, the LT70 can now be configured with WIDE non-belted blade wheels in order to run WIDE 50 mm blades. The wider blade wheels and 50 mm blades can be ordered for either the regular head width or the WIDE head.

The new Wood-Mizer sawmill options increase cutting capacity for sawyers that require extra cutting widths, and wideband sawing performance.

Cutting capacity of the LT70 WIDE Sawmill:

- 105 cm maximum log diameter
- 86 cm maximum cut width
- 78 cm maximum cant width
- Log length depends on the bed length:
  - 04.8 m - S bed
  - 06.1 m - M bed
  - 08.4 m - L bed

“Wood-Mizer is always committed to providing timber processors with the best available products and features in the industry,” said Robert Baginski, President of Wood-Mizer Industries.

“The new LT70 WIDE gives customers more capacity for sawing wider timber, while being able to achieve production results that are expected from more expensive wide band sawmills.”
Want to Cut WIDER?

- 105 cm Maximum Log Diameter
- 86 cm Cutting Width
- 50 mm Wide Blade

Wood-Mizer Africa (Pty) Ltd
1 Leader Park, 20 Chariot Street, Stormill Ext. 5, Johannesburg, South Africa
Tel: +27 11 473 1313 | enquiries@woodmizeraf.com
www.woodmizeraf.com
IMPORTERS AND DISTRIBUTORS OF QUALITY TIMBER PRODUCTS

NUMILL MARKETING IS A DIRECT IMPORTER AND DISTRIBUTOR OF EXOTIC HARDWOODS, MERANTI, PINE AND MANUFACTURED BOARD PRODUCTS. LOCATED IN GAUTENG, DURBAN AND CAPE TOWN, NUMILL HAS SUBSTANTIAL INVENTORY AVAILABLE FOR DELIVERY ANYWHERE IN SOUTHERN AFRICA. NUMILL SOURCES ONLY THE FINEST QUALITY PRODUCTS FROM ALL OVER THE WORLD, AND FSC (FOREST STEWARDSHIP COUNCIL) PRODUCTS ARE AVAILABLE. REGISTER AT WWW.NUMILL.CO.ZA TO BROWSE LIVE UPDATED INVENTORY ONLINE. SEND INSTANT ONLINE ENQUIRIES AND WE WILL CALL YOU TO DISCUSS YOUR REQUIREMENTS.
Numill Marketing, an agent and wholesaler of bulk timber products, has recently expanded its service offerings by becoming the exclusive distributor of hard wood lumber products provided by Baillie Lumber in the Southern African Hardwood Market.

Numill was established in 1989 by Pierre Venter who is the company’s managing director. He and his team have grown the business throughout South Africa to become a full-service provider of value-added timber products, including decking and plywood.

Best known to hard wood lumber buyers as the distributor of the American Lumber brand, the addition of Ballie Lumber products now enables Numill to supply customers with a much wider choice of hard woods.

“We are excited to announce that we have added their brand to our portfolio. This service provides customers with assurance of a secure and dependable supply of quality hard wood lumber products that are unrivalled in the market.”

With the addition of Baillie Lumber products to their portfolio, Numill has expanded its sales team to include staff who are familiar with Baillie Lumber products.
Baillie Lumber joins ...

They will focus on supporting clients who are loyal and familiar to the Baillie brand from the Numill warehouses in Cape Town, Durban and Johannesburg.

Numill has its head office in Strand, Cape Town, and three warehouses based in Cape Town, Durban and Gauteng. They all stock numerous species of timber, boards, shutterply, plywood and fibre cement products.

“We employ 46 people and are well staffed to be able to assist customers and provide prompt deliveries daily all over the region,” says Venter.

Numill’s hard woods are imported from North and South America, Europe, South-East Asia and Africa. The soft woods are predominantly pine that is purchased from local sawmills and the supply is supplemented with products from South America and Australasia.

Numill believes that sustainable forestry is the best strategy for its business and encourages customers, suppliers and partners to pursue environmentally sustainable practices.
Multiply, a nine-meter high, carbon-neutral wooden pavilion made of 43 cubic metres of tulipwood generated huge interest during the 2018 London Design Festival.

The tulipwood that makes up Multiply stores the equivalent of 30 tonnes of carbon dioxide and the trees are replaced with natural growth in the American hardwood forest in just five minutes.

The installation was a collaboration between Waugh Thistleton Architects, the American Hardwood Export Council (AHEC) and built environment experts ARUP. It illustrates how modular cross-laminated construction in hardwood can be a viable solution to the international housing crisis. The structure is made with the first UK-manufactured cross laminated timber (CLT) panels.

One of the London Design Festival’s Landmark projects, Multiply is a maze-like series of interconnected spaces that overlap and intertwine. It was conceived and constructed to encourage visitors to re-think the way homes and cities are designed and built.

The three-dimensional structure was built out of a flexible system, made of 17 modules of American tulipwood CLT, with digitally fabricated joints. Like a piece of flat-packed furniture, the pavilion arrived as a kit of parts and was quietly and efficiently assembled in under a week. At the crown of the structure is a module with a thermo-treated tulipwood interior layer - the first time thermally modified timber (TMT) has been incorporated as a protective layer in CLT.

Multiply confronts two of the current age’s biggest challenges - the pressing need for housing and the urgency to fight climate change - and presents the fusion of modular systems and sustainable construction materials as a solution. The pavilion was taken apart and will be reassembled in a new home after the London Design Festival.

“The main ambition of the project is to publicly debate how environmental challenges can be addressed through innovative, affordable construction,” says Andrew Waugh, co-founder of Waugh Thistleton Architects, a studio that has been at the forefront of wood construction for decades. “We are at a crisis point in terms of both...”
housing and carbon dioxide emissions and we believe that building in a versatile, sustainable material, such as tulipwood, is an important way of addressing these issues.”

Waugh explains that to keep up with population growth and deal with years of under supply, around 250,000 new homes need to be built in the UK every year. In 2016/17, 184,000 new homes were built in the UK, a shortfall of approximately 66,000 homes. “To increase supply to meet demand, a new way of thinking and building must be embraced.”

The firm of architects have pioneered innovative uses of wood in construction for decades. MultiPly explores a new, more sustainable way of building, bringing together a readily available carbon-negative material with a modular design.

Tulipwood is sourced from the Eastern United States, where the hardwood forest area is expanding at a rate of one football pitch every minute, and already exceeds 110 million hectares, equivalent to the combined area of France and Spain. According to AHEC this makes the material both sustainable and environmentally friendly, especially as it is one of the most abundant American hardwoods.

MultiPly uses a wood engineering technique known as cross-laminating, where timber planks are laid perpendicular to one another and glued together to form very strong, stiff and stable panels. CLT has traditionally been made of softwood tree, however, together with Arup, AHEC has been experimenting with CLT made from fast-grown tulipwood for the past decade.

The research and projects undertaken have proved that weight for weight, tulipwood CLT is stronger than steel and concrete and can be machined to incredibly high tolerances. This makes it ideal for prefabrication and rapid assembly, reducing construction times by around 30%. AHEC says tulipwood is an inexpensive and easy to machine hardwood that is incredibly strong for its weight.

The use of CLT means that large-scale timber buildings can be constructed without the use of concrete or steel. These properties, together with its dramatic marble-like appearance, make tulipwood an ideal hard wood for innovative timber construction. Tulipwood planks for MultiPly were imported from America and the panels for MultiPly were manufactured in the Construction Scotland Innovation Centre (CSIC), the UK’s first CLT factory.

MultiPly would not have been possible without the contribution of timber from AHEC members - Allegheny Wood Products, Ballie Lumber, Bingaman Lumber Inc., Boss Lumber Corporation, Classic American Hardwoods, Collins Hardwoods, Latham Timber, Northland Forest Products, Parton Lumber, and Thompson Hardwoods Inc.

Tulipwood accounts for 7.7% of the total standing volume in United States hardwood forests. Every year, even after harvest, the volume of tulipwood in the U.S. forest grows by 19 million cubic metres, the equivalent of over 19 Olympic swimming pools per day.
Modellers of Antique Furniture: a phoenix rising

Modellers of Antique Furniture is a family-run woodworking company based in the Roodepoort area in Gauteng, and has a rich history in South Africa, going back to the early 1950s, when family patriarch Silvio Rech immigrated to South Africa, opening his own woodworking factory here in 1953.

He quickly gained a reputation as master woodworker and have contracts, including the original furnishing of the Union Building in Pretoria, and the design of the State President, as well as Ministers’ desks under his belt. Modellers of Antique have designed and built the desks for nearly all state presidents and many ministers.

That tradition was passed along to his sons Agostino and Atillio, who in turn, passed it onto the next generation, brothers Fino and Franco Rech.

Between the three generations of the Rech family, they have furnished some of the most prominent residences, hotels, casino’s, resorts, offices, and government buildings in the country as well as abroad.

Specialising in custom solid wood production, the brothers Rech believe in doing things the old-fashioned way: meticulously, and with utmost attention to every detail. “It seems to be a dying skill,” says Fino when asked about the availability of skilled craftsmen.

“Our staff, for the most part, have been with us for many years. We operate in a highly specialised environment and finding the people with the skills that we need is becoming harder and harder.

“Thus, we have, over the years, developed a strong culture of ongoing in-house training. Each one of our staff members undergo meticulous training on an ongoing basis so that we can cultivate the skills that we need, since they are not readily available in the country.”

Some of the more specialised departments include carving, turning, and even upholstery.

But, operating in such a specialised environment also has its up side. “A certain calibre of client demands a certain calibre of product,” says Fino.

“That, along with our impeccable reputation as master craftsmen, has ensured that our company has continued a strong growth trajectory over the years, and has enabled us to, in addition to the workshop, open two very prominent retail outlets under the name Classic Revivals, first in the trendy, upmarket area of Parktown North in Johannesburg, and later in the Waterkant, in Cape Town.”

But, as fate would have it, in 2016, disaster struck the Rech brothers when construction work on a building next door to their exclusive heritage building Cape Town branch, caused structural damage and resulted in a dreaded phone call informing the brothers of the collapse of the building.

Not only was the loss of the building a major setback, but the amount of stock consisting mostly high end designer pieces, was a devastating blow.

As if this was not enough, not four weeks later, on Spring day (1 September 2016) another tragedy struck when a fire broke out at their Roodepoort factory, razing it to the ground. And this at a time when the company’s order book was probably the fullest it has been in its entire history.

“These last few years have been the most difficult of our lives,” says Fino, still obviously emotional when pressed on the
topic. “It was like our entire world just came to a standstill,” he says.

“The loss of the factory and all our equipment was a major blow, one from which most business would not recover. Fortunately, all drawings were saved as the office remained unscathed. The loss of carvings in the workshop was a tragedy.

“The strength of Modellers is the people behind the name. Skilled cabinetmakers and upholsterers and workers with years of experience. They are the Modellers family and the true treasure behind the business.

“As the factory burnt down, they stood in the road and we cried together. These amazing people have ensured that Modellers stood up out of the ashes and has risen once again to be the leading furniture manufacturer in RSA.”

In true Rech fashion, that same afternoon, Fino was out on the road searching for a new premises from which to carry on the family dream and not disappoint the Modellers family that have been true and loyal for many years.

With an order book full to the brim and under severe pressure to try and recoup some of the losses suffered, the Rech brothers did not have the luxury of time to wait for insurance claims to be settled, and thus started buying essential machines and tools out of pocket in the interim and six weeks later, they were back in production.

On 1 September this year, two years to the day since the fire that changed their lives, the Rech brothers and their employees moved into their newly rebuilt Roodepoort factory, their lives, and their company back on track.

The Rech brothers are not your typical furniture manufacturing company owners. You are highly unlikely to walk into their offices during the day and actually finding them there, lounging in their chairs.

Instead they are almost constantly on the factory floor, personally involved in every single project happening and more often than not, lending a hand.

“This is not the type of an environment where you put a plank into the machine at one end and a finished product comes out the other end,” says Franco. “While we have our share of state-of-the-art equipment, you will not find an edge bander or a CNC machine on our factory floor.

“Every piece that comes off our production line is meticulously crafted by one of our master craftsmen. From initial cutting, to carving and shaping, to upholstery.” According to Franco, the process typically begins with a sketch or a rough idea presented by the client.

“We would refine that idea into a 3D sketch, usually drawn free hand by Fino, and once we have sign off from the client, we would then produce a life size sketch of the finished product, as well as a detailed cutting list, and detailed plans for each individual component, all done manually and without the use of any machines or software.

“Thereafter the wood for the project is planed and cut, and sent down the production line for the manufacture of the different components, which typically involves shaping or turning, and in many cases very intricate carving.”

Once all the components have been manufactured and the relevant parts have been upholstered, everything is sent to the finishing, and finally the final assembly line for completion before a final quality check and delivery.
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Machines

According to Fino, one of the saving graces of the company during these last years, has been the machine suppliers who went out of their way to help get them back on their feet after the fire.

"Approximately 50% of our machines were supplied by the CMC group," says Fino, adding that the CMC group was extremely helpful in getting the company back into production.

Machines from the CMC Group include spindle moulders, panel saws, planers, thicknessers, cut-off saws, overhead routers, a multi-borer, and a dovetail machine.

GF Potgieter was also a major supplier, being responsible for the supply of approximately 40% of the company’s machines including double planers, a shaping machine, bandsaws, a carving machine, a guillotine, and a cut-off drill.

Fino has also sung the praises of REM, from whom they acquired a veneer press, a surface planer, as well as a 5-head molder, Volker Teske, who supplied a Martin crosscut rip saw and a French spindle.

Other suppliers include Donald Fuchs Machinery, Hurricane (spray booth), and Dennis Sparrow, who installed a state-of-the-art dust extraction system.

Each piece is made the old fashioned way, by hand and with extreme attention to detail.
Custom mobility and practicality with Designs by Us

From humble beginnings, Designs by Us has come a long way in the 12 years since its inception, initially as an after-retirement project by director Eddy Bodemer.

“Just a short while before my retirement from a prominent furniture retailer, my wife, knowing that sitting at home and ‘enjoying retirement’ would not suit me well, convinced me to buy a small furniture manufacturing company, specialising in mobile trolleys housing sinks, or cupboards for outdoor use,” says Eddie.

Eddy has since taken on two co-directors, one of whom was in charge of production at the original company, expanded the range to include everything from mobile fridge cabinets, to gas braais, to islands containing drawers, sinks, butcher blocks and a whole range of other useful products for around the house and in the lapa, as well as more conventional furniture.

Working with only solid wood, with ranges that include affordable Pine and Meranti, to high end custom pieces made from exotic woods, the company has gone from strength to strength and exceeded all expectations in terms of growth.

“We remain a small company, but we are growing and our products, which are a bit different from what one would normally find in the kitchens and on the patio’s and lapa’s of South African homes, are making an impact on the market,” says Eddie.

They’ve come from selling their products at craft markets to supplying retail furniture outlets and, lately, setting up pop-up stores in prominent malls across Gauteng.

“It’s not been easy,” says Eddy. “Unfortunately, it is becoming harder and harder to run a successful manufacturing business in South Africa.

“The state of the economy has a very real impact on our business, especially as wood prices, transport costs etc keep going up, but the public appetite for spending is on the decline.

“The decision to set up the pop-up shops in malls has proven to be a very good one. Our products are such that they need to be seen and touched and therefore...
they do not lend themselves well to be sold off some catalogue or even just over the internet.”

But what is the secret behind their success? “I think the fact that our products are, in addition to being beautiful to look at, also very practical,” says Eddy.

“Every design is judged not only on its aesthetic value, but also on practicality.

“So many things nowadays look so nice but they are not really that useful. We’ve come up with a range of products that, every person with a patio or lapa will love, firstly because of its practicality, and secondly for its aesthetic qualities.”

Every piece, from cutting boards, to mobile units, is made by hand in a remarkably low-tech workshop, sporting machines mostly sourced from auctions.

From entry into the workshop, wood is planed, cut, laminated, treated, and assembled by a nine strong production team, with local deliveries being handled in house, and further afield deliveries outsourced to a courier company.

According to co-director, Gerrie Wolfaardt, the small production team consists of well trained individuals. “It is not as simple as cutting and edging, therefore we need to ensure that our staff members know exactly what they are doing.

“Luckily, in a relatively small environment such as this, we are able to do continuous on the job training. We are all very hands on, and always coming up with new ideas with our staff members to expand both our product range, and our skillsets.”
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Two decades of scanning technology

Founded in Luxembourg 20 years ago, Luxscan, which is now part of the German woodworking giant, Weinig, has gained an international reputation for automated timber optimising and strength grading.

The company celebrated the prestigious anniversary with an event that included staff and the Weinig CEO Wolfgang Pöschl and CFO Gerald Schmidt. Their special congratulations went to Luxscan’s managing director Raphaël Vogrig and Jean-Philippe Hildebrand. These men have played a decisive role in the company’s success and have held dual leadership positions at Luxscan for several years.

By the end of 2018, Luxscan will have sold 400 scanners for use in a total of 36 countries. The first scanner sales was to a company in New Zealand followed by installations in Germany, Hungary and Austria. Encouraged by good sales figures in Canada and the USA, they decided in 2005 to found Luxscan Inc. and established their own company presence in North America, currently the most important market for the scanner specialist.

In 2007 Luxscan became a member of the Weinig Group, the leading technology provider in solid wood and panel processing. This step accelerated expansion with the focus on scanners for the recognition of various wood characteristics during cross-cutting.

In 2008 the first rip scanner was introduced and the completely redesigned CombiScan+ set a particularly remarkable milestone at LIGNA 2009. The advanced technology made it possible to precisely detect defects and 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 also set standards in the medium range from 2015. Luxscan was now in the position to cover requirements on every level, which brought a further growth spurt: “Thanks to our comprehensive portfolio, we have achieved a significant increase in sales in the last two years,” says a delighted Jean-Philippe Hildebrand.

Luxscan employs more than 50 people. Special attention is paid to innovation and customer orientation, and this department and the research and development department are the largest in the company.
Board and Timber Traders: rising from the ashes

Industry veteran Les Roberts started Board and Timber Traders in November of 2006. His well established reputation, gained from 32 years working in the industry, helped him get off to a good start.

To such an extent that within a short while, he managed to establish a cabinetry and cut and edge production line in addition to just selling boards.

The company did well over the years, growing to the extent that Les was able to buy a new, bigger building in 2018.

But, before he could move his company to the new premises, tragedy struck.

“It was a Sunday night (13 May) when I received a call saying that my factory was on fire,” says Les. “It was like being struck by a ton of bricks.

The fire was caused by an explosion at a neighbouring ink manufacturing company, and when the smoke had cleared, five surrounding factories had burned down.

“I rushed to the factory, but I was unable to gain access as firefighting efforts were underway.”

Les was only able to gain access to his factory the next afternoon and what greeted him was near total destruction.

“Everything was destroyed,” says Les. “The machines that were not completely gutted by the fire, was damaged by the water used to put the fire out.

“All that remained was some stock that escaped the flames.” According to Les, even through the whole nightmare of having to deal with his life’s work going up in flames, his only thought was about getting back up and running.}

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A Nanxing panel saw in action
“With the help of Donald Fuchs, I managed to secure a temporary building the very next day and between Donald Fuchs Machinery and Allwood Technologies, who went out of their way to supply all the machines to cover our immediate needs, we were back in production within the week.”

According to Les, he was dumbstruck at the generosity of both of these companies.

“They would not even consider talking money,” he says. “It was all about getting us back up and running and nothing else. It says a lot about the integrity of both of these companies that they absolutely refused to even discuss money until we were up and running again.

“If it was not for their help, I do not know where we would be today.”

Les says that his employees did not even miss a day’s work. “My staff showed up on Monday only to discover that the factory had burned down.

“By Monday late afternoon, we were delivering what we could from the small amount of stock that was not burned and by Tuesday morning, we were prepping the new building to receive new stock and new machines.

“New machines from both Allwood Technologies and Donald Fuchs Machinery arrived between Wednesday and Thursday, and all machine installations were finalised on the Friday.

“We started up and went straight into production on the Saturday morning.”

Another saving grace, says Les, was his staff. “Each and every one was absolutely brilliant,” he says. “My team pulled together and worked like their lives depended on it, not once complaining, and even enduring longer hours and extra shifts with smiles on their faces and a fantastic attitude. It was definitely something that made me proud, and I cannot thank them enough for their unwavering support.”

Les is also thankful to his stock suppliers for all their assistance in going out of their way to keep supply up, even in those uncertain days just after the fire.

The one thing that Les was less than impressed with, was the service received from insurance companies. To date, five months after the incident, he has only received around 60% of his total claim, with red tape and bureaucracy halting progress at every turn.

“It went as far as the insurance companies insisting on repairing some of the machines despite assurances from all the machine suppliers themselves that the machines could not be fixed.”
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"Insurance companies are very quick to take your money every month, but when tragedy does strike, instead of coming to the party and doing what you’ve been paying them for, they try to find any excuse not to pay you, or to delay payment for as long as possible.

Les says that if he has learned one thing from the whole experience, it is to always ensure that your insurance details is up to date, that your machines are insured for replacement value, and that you get the replacement values updated every year.

"Luckily we did all of that, but believe me, the insurance companies will keep you busy for months just checking over those details, and looking for any excuse to not pay out the full amount, eventually leaving you with no option but to procure legal help in order to get what is due to you."

In addition to this, the insurance companies continued to deduct their full premiums up until July, despite the fact that the insured goods were destroyed.

Before the fire, Board and Timber Traders had three beamsaws, two edgebanders, a full wrapping plant, two nesting machines, a CNC, and two panel saws.

With the help of Donald Fuchs Machinery and Allwood Technologies, within the week, they had two panel saws, one edgebander, and a CNC, with other machines from suppliers like Austro, who also jumped in and helped without hesitation, being procured later on.

The company has since moved into its new premises and is back running at normal capacity, with all back orders cleared.

Machines currently in operation on the floor include a panel saw, and edgebander, and a beam saw from Donald Fuchs machinery, an edgebander, a panel saw, a CNC, and a nesting machine from Allwood Technologies, and a Biesse beam saw and a wrapping machine from Austro.

Board and Timber Traders stock all the major local board brands including PG Bison and EvoWood, some imported board ranges, as well as a range of local and imported plywoods.

All edging and adhesives are sourced from Upper Edge and Rehau.

“I would like to thank my staff, all my suppliers, and all my customers from their continued support. Without them, I would not have been able to carry on.”
This NC controlled beam saw series contains technology solutions that make it suitable for small to medium-sized companies as well as special departments of medium to large companies, thanks to its easy to use controls, axis speed and precision. The Sektor series can be configured in their hardware and software aspects to suit individual customer needs.
Kreg’s new Accu-Cut

Whether you’re making rip cuts, crosscuts, or angled cuts up to 1220 mm long, the Accu-Cut does it with super-simple setup, precise accuracy, and amazing control.

The Kreg Accu-Cut makes straight, accurate, splinter-free cuts in plywood, MDF, and other large sheets more easily than you have ever imagined.

That’s because the Accu-Cut transforms your circular saw into a high-performance, track-guided cutting system.

The Accu-Cut simplifies making straight, accurate, splinter-free cuts in plywood, MDF, and other large sheets by guiding your circular saw along an aluminium track. This keeps the saw moving in a straight line easily.

The Accu-Cut design makes it simple to set up by just aligning the track with your cut line. No clamps are required to hold the track in place thanks to dual guide strips that feature feature an anti-slip coating to prevent slipping, and an anti-chip feature to prevent splintered cuts as well as a track that makes it easy to make straight cuts on sheets that don’t have a straight, flat edge.

What problems does this solve?
Circular saws don’t have effective guides that keep them moving straight along a cut line. Plus, it can be difficult to see the blade’s cutting path.

Together, these things make it challenging to keep a saw on your desired cut.

Circular saws also often cause splintering of face veneers. The Accu-Cut solves these problems.

It is portable too, so you can take your saw to the workpiece and cut with precision, rather than having to handle heavy sheets on a table saw.

How does it work?
The Accu-Cut is very easy to use. The track guides your saw straight while a universal sled holds your saw on the track in perfect alignment.

The sled accepts most left-blade or right-blade saws. To cut, just make a couple of marks on your sheet, align the edge of the track with the marks, and you’re set.

Place the saw on the starting block which aligns the blade and supports the saw as you start cutting — and then slide the saw along the track.

Strips on the underside of the track hold it in place without clamps, and hug the blade to prevent splintering.

Easy to use for all
The Accu-Cut is easy and intuitive for a novice to use, but robust enough for professionals.

Because it eliminates the need to keep the saw straight and manually guide the saw along a cut line, the Accu-Cut is ideal for less-experienced users. Accu-Cut also makes professionals faster and more productive because it makes
a variety of cuts quickly and easily in the shop and on the job site.

The Kreg Accu-Cut offers your customers an easy-to-use, affordable solution that provides the cutting performance of a table saw at a fraction of the price.

Whether your customer is a DIYer who is intimidated by cutting large sheets, or they’re a professional woodworker looking for a fast, portable way to make perfect cuts, the Accu-Cut will give them results that exceed their expectations.

**Key Product Features**

- Rips, crosscuts, angled cuts up to 1220 mm
- Universal saw plate accepts most circular saws—left or right blade
- Starting Block supports saw at beginning of cut, allows normal blade guard operation, guides saw cord
- Two-Piece Saw Track (673 mm each, 1346 mm total)
- Durable anti-slip/anti-chip strips hold track in place, prevent splintering
- Simple one-time setup
- Saw can be removed and reinstalled quickly, easily

**Accessories - Track Clamps**

- Optional clamps for securing the Accu-Cut™ track to warped/slick materials, and for cutting with a single-track section
- Includes two clamps with hardware

**In the Package**

- Universal Saw Sled
- Two 673 mm Aluminium Guide Tracks
- Two Track Connectors
- Starting Block
- Track Indicator Clip
- Detailed Setup and Usage Instructions

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Tertiary institutions urged to embrace timber construction in engineering

The Institute for Timber Construction South Africa (ITC-SA) has noted a decline in familiarity with timber as a building material among graduates of tertiary level engineering programmes, which has serious implications for the construction industry.

The Institute urges higher education and training providers to review their curricula for a more holistic offering that embraces timber as a standard construction material.

While timber frame construction makes up a small, but growing, percentage of new builds in South Africa, timber is widely used for roof trusses, from domestic to commercial applications across the country.

"With the high-volume usage of timber in roof trusses for a range of roofing applications, it is essential that all participants in the value chain are well equipped to ensure that timber roof trusses adhere to regulations, from design to certification," says Amanda Obbes, ITC-SA general manager.

"The engineer has a pivotal role to play in ensuring the safety of the occupants of a structure, not just during the design, fabrication and erection of the roof trusses, but they essentially have the final say on whether or not a structure is fit for habitation. This makes it essential for the engineer to have proper exposure to timber and its design capabilities as a construction material and is the reason the ITC-SA is calling on universities and colleges to include timber in their engineering courses and degree programmes."

As part of the ITC-SA’s directive to boost skills development and bridge gaps in the timber construction sector, the Institute offers a number of online courses and regularly hosts Engineering Council of South Africa (ECSA) approved CPD-accredited training courses for continuous professional development.

These include, among others, timber information conferences and workshops at various trade shows and institutions like Local Authorities, Public Works, Banking Institutions and Banking Valuators," Obbes remarks.

Online courses available through the ITC-SA include:

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<th>Course</th>
<th>CPT points</th>
<th>Description</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Roof Specialist Level</td>
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<td>Home study, online assessment</td>
<td>R1893.84 incl VAT</td>
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<td>Level 1 Estimation/Director</td>
<td>6</td>
<td>Home study, written assignments &amp; exam</td>
<td>R7000 excl VAT</td>
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<tr>
<td>Level 2 Estimation/Director</td>
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<td>R7000 excl VAT</td>
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<tr>
<td>Roof inspection Training</td>
<td>3</td>
<td>8-9 November 2023, Gauteng</td>
<td>R900 excl VAT</td>
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"Exposing professionals and industry specifiers to timber construction on equal footing with other construction materials during their studies and beyond is critical, not only for the timber industry to thrive, but for multiple trades to be able to work in complement with one another for the best possible outcome," explains Obbes.

"Without the necessary skills in the timber sector, this vision has little chance of being fully realized. This is why the Institute has implemented a host of courses that can boost the professional’s knowledge of timber, not only for personal development, but for the value that this brings to their workplace and the industry.

“Timber has unrivalled potential as a building material to answer the global call for more sustainable buildings that serve the people who live, work and play in them. It also has environmental imperatives that underpin our drive for a greener built environment; and it is critical that we support this vision through education, training and life-long learning."

The ITC-SA welcomes feedback and suggestions from students, professionals and other institutions in South Africa on the role that timber construction plays in tertiary education courses and programmes. The Institute calls on role players in the industry to submit their suggestions for collaboration to advance the agenda of timber construction in the field of engineering. Please forward your comments, suggestions or collaboration proposals to amanda@itc-sa.org.

■
Mind the timber engineering gap

Thea Smal, Civil Engineer at Unilam Pressings, calls on universities offering construction-related engineering programmes to include a more comprehensive approach to knowledge and skills transfer when it comes to timber construction.

“At university, our exposure to timber construction was only in a third-year semester subject, Timber Design. We were offered much more in-depth learning for the other structural industries like concrete and steel, with two full semesters dedicated to these, as well as a measure of practical experience in the field,” says Smal.

“The first time I was introduced to timber as a building material was also the first introduction to limit-states design and our first exposure to information on how to design. Both concepts were introduced in the same subject with a focus on how to design using the SANS codes with limited explanation on how to implement these in the timber industry.”

It is not uncommon for new graduates to experience a temporary ‘gap’ or lag between skills learned at university and their application in the working environment. Smal says that when she entered the timber construction industry, she experienced an amplified break between the theoretical learnings from her studies and applying these at work: “It was difficult when I started working; I had a gap between what I had learned and how to apply this,” she says.

Timber and the built environment

“The world is developing at a rapid pace and we need more building options to support this growth. With increasing urbanisation, many developers are targeting height as an answer to density and most often will use steel and concrete to build these structures. We are missing a golden opportunity to build these structures more sustainably with a natural and renewable resource, because timber is often not part of the engineering graduate’s toolkit,” she says.

“A more sophisticated grasp of the benefits and limitations of all materials, timber included, could help to create a built environment in which timber is not pushed to the sidelines, but is harnessed alongside other raw materials used for primary construction.”

Bridging gaps

Early on, working for an ITC-SA system supplier, Smal realised that there was an opportunity to broaden her knowledge and practical skillset in the timber construction field. She was led to the ITC-SA, whose mandate it is, as a professional body, to oversee the training and development of its members.

“I was delighted to find the courses on offer at the ITC-SA. I have learned a great deal from participating in these courses and they have helped me bridge the gap between my studies and the practical application thereof so that I can carry out my profession with confidence,” she says.

Japan’s Olympics stadium takes shape

Inspired by the wooden structures of traditional Japanese architecture, Japan’s new National Stadium will be completed in 2019 and will serve as the main venue for the 2020 Summer Olympic and Paralympic Games in Tokyo.

In commemoration of the recovery from the earthquake that hit Japan in 2011, timber from the country’s four most severely damaged prefectures in the east will be used for the wooden louvers of the three entrance gates. The Olympic authorities published a Sustainable Sourcing Code for Timber, setting out its strategy for sourcing the wood used to construct the building over the next three years.
Interzum Guangzhou to include a focus on automation for small volume manufacturing

Following positive response from the furniture production industry for the launch of the Custom Furniture Suppliers Zone at the international exhibition area of CIFM / interzum guangzhou in 2018, organizers of the show have announced the return of an expanded feature showcase next year to take up twice as much space in view of strong growth potential for this market.

Slated to be held in China’s furniture manufacturing powerhouse Guangzhou from March 28 to 31, 2019, CIFM / interzum guangzhou is the largest and most comprehensive trade fair in the woodworking machinery, furniture production and interior decoration industry in Asia.

With continuously evolving consumer demand, custom and non-standard furniture has become the hottest trend that has been widely embraced by furniture makers. While they meet the individual needs of consumers, flexible automated production in small volumes is also made possible. Data shows that China’s custom furniture industry continues to grow, and accounts for about 20 per cent market share in the furniture industry. Compared with developed countries with over 60 per cent market share, there is substantial room for growth in China. Currently, the phenomenon has extended from customizing cabinets and wardrobes to the entire house. This is a test of information technology, process technology and flexible production capabilities of manufacturers, which is also expected to bring about great opportunities.

Located at Hall 14.1 (Area C) of the Pazhou Complex, the Custom Furniture Suppliers Zone is poised to stir up fresh interest among visitors.

CIFM / interzum guangzhou continues to be sought after by industry brands, with over 95 per cent of the exhibition spaces at the international halls booked out.

Among them, national pavilions has always been an integral part of the international exhibition area, and is also one of the most popular highlights at the event. Every year, nearly 100 of the industry’s top raw material as well as component suppliers for furniture production are being showcased bringing the latest product information to the show.

In 2019, CIFM / interzum guangzhou will continue to welcome national pavilions from major global furniture manufacturing hubs and markets, such as Germany, Turkey, US/Canada, South Korea and Italy. In addition, industry associations including the American Hardwood Export Council (AHEC), Quebec Wood Export Bureau, Canada Wood and French Timber will also be back once again to seek distributors, agents and bulk buyers in Asia through the event.

Besides that, a series of exciting concurrent activities is also to be anticipated, including business match-making, exhibitor sharing sessions and forums to enable enterprises in the region to promote their products and technologies to global buyers.

The last edition occupied 150,000 square meters and spanned 17 exhibition halls. 1,459 companies from 38 countries and
regions gathered at the event attracting 89,858 trade visitors from 132 countries and regions.

Online visitor pre-registration for 2019 has kick-started. Successfully pre-registered visitors will enjoy free and fast entry, free show catalogue, PIAZZA drink voucher and ticket to the Happy Hour networking cocktail event.

To learn more about CIFM / interzum guangzhou, visit www.interzum-guangzhou.com.

About the Organizers
Koelnmesse
As a world-renowned trade fair organizer, Koelnmesse has an excellent track record for organizing some of the world’s most successful trade events, such as the accomplished interzum and imm in Cologne, Germany. With over 90 years’ experience in organizing large-scale commercial events connecting buyers and sellers, Koelnmesse brings forth an unrivalled skill-set and expertise needed to develop CIFM / interzum guangzhou into the premier international furniture production trade show in Asia.

www.koelnmesse.com

China Foreign Trade Centre (Group)
The China Foreign Trade Centre (Group) is a highly qualified and experienced exhibition company. For more than 50 years, it has been organizing the China Import and Export Fair (also known as the Canton Fair), the largest trade fair in China. It is also the organizer of CIFF (China International Furniture Fair (Guangzhou), Asia’s biggest furniture trade fair.)

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Employment Wanted

Lelethu Twawe is seeking employment

Obtained National Diploma in Forestry from the Nelson Mandela University

Contact: 078 047 6278

Employment Wanted

Dumisile Fortune Tshabangu is seeking employment.

Fortune is a student at the Zimbabwe College of Forestry, he is studying towards a diploma in Forestry.

EDUCATIONAL BACKGROUND

Academic Qualifications
Diploma in Forestry
: semester 1
: semester 2
: semester 3 pending

Contact Fortune:
Email: fortunemantshinga@gmail.com
Phone: 077 191 0353

Contact M. Machamada at the College:
Tel: +263 772 551 461
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Koelnmesse Co., Ltd.
Ms. Karen Lee
Tel: +86-20-8755 2468 ext 12
Fax: +86-20-8755 2970
karen.lee@koelnmesse.cn

Mr. Mattis Liang
Tel: +86-20-8755 2468 ext 15
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