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Use burnt trees according to their potential
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Architects and building contractors must know the law
Portable sawmills are ideal for processing burnt timber
Finding the timbre in timber
Wood SA & Timber Times is proud to be the only publication in Africa that serves and is part of the entire diverse value chain, from the soil to the finished product. Every participant in this value chain faces challenges that affect our competitiveness and sustainable existence. However, like a trip to a shop to buy bread and meat, the connection between the various components making up the value chain is sometimes overlooked. The relationship between the processing plants, and the growers and breeders of the animals, wheat or trees is clear, but for the rest of the chain it fades the further away you get from the source.

This is most noticeable amongst woodworking companies where there is a tendency for furniture, kitchen, upholstery, and shop fitting manufacturers using solid wood not to see themselves as part of the broader forestry value chain. This is mainly because they are working with dry timber and composite wood and laminated products purchased through a “middle-man”. Likewise, their needs are now largely ignored by growers because the furniture grade timber market is miniscule compared to the pull from construction lumber, poles, and especially the pulp mills.

The sustainability of this diverse forestry sector was the focus of the Forest Science Symposium we report on in this and next month’s issues. The scientists highlighted their successes and discussed issues that call for immediate mitigation by everyone in the value chain. The terms climate change and global warming were brought into sharp focus with the impacts of hotter summers, milder winters and drought already a reality. Researchers, tree breeders and growers reported that they are making mitigating inroads, and I urge woodworking companies to take heed and plan for a fast approaching future where the properties, characteristics and even the type of their raw materials will be vastly different.

Prof Mike Wingfield raised another issue that he described as “an arms race we must win”. Invasions of non-native insect pests are increasing due to increased trade and inadequate quarantine regulations and implementation. Pests and pathogens do not discern between plantation and indigenous trees, and unless we all play our part it could result in substantial socio-economic and environmental losses.
The 7th Forest Science Symposium, recently held in Pietermaritzburg, was attended by more than 250 people who are passionate about forestry. They included those who are learning about and contemplating a future in forestry, those who conduct research and push the boundaries of technology and new thinking, and those who take the knowledge and turn it into innovation and policy, and put it into practice.

The theme of “Research Underpinning the Sustainability of a Diverse Forestry Sector” attracted an unprecedented number of presentation proposals and the organising committee worked long hours to debate which presentations, papers and posters would make the cut.

The presentations were carefully curated to cover the entire forest value chain that benefits from research and scientific discoveries. The diverse range of topics included the forestry industry and the international sustainable development goals, water usage, soil and plantation productivity, forestry management, pests, pathogens and bio-controls, risk mitigation, tree breeding, modern technologies, and the social aspects that impact the forestry sector.

The three-day event was co-hosted by the Institute for Commercial Forestry Research (ICFR), the International Union of Forest Research Organisations (IUFRO), the Department of Agriculture, Forestry and Fisheries (DAFF) and other research partners. The first day of the symposium coincided with the birthday of Nelson Mandela and the delegates joined the event organiser and ICFR knowledge manager, Sally Upfold, in celebrating him by taking a moment to listen to Savuka and Johnny Clegg’s Asimbonanga (Mandela) song.

Pumeza Nodada, chief director of forestry development and regulations at DAFF thanked the outgoing and retiring director of the ICFR, Dr Colin Dyer, for his contributions to the industry, and welcomed the new acting director, Dr Andrew Morris. Nodada said the government recognises the importance of the forestry industry and demonstrates this by, for example, funding specific events such as the symposium, research that benefits the industry such as the Sirex programme, bringing 147 000 hectares of plantations back into production, and through a range of policies such as the agricultural policy action plan.

The invited plenary speakers were selected to share their knowledge and expertise and to inform the underlying sub-themes of the symposium:

- Prof Gary Hodge of CAMCORE, the international tree breeding organisation headquartered at North Carolina State University in the USA: The importance of gene conservation in forestry;
- Prof Bruce Sithole of the Council of Scientific and Industrial Research and the University of KwaZulu-Natal (CSIR/UKZN): Biorefinery technology platforms to support the forest product industries;
- Prof Mary Scholes of the school of animal, plant and environmental services at the University of the Witwatersrand (Wits): How can SA forestry contribute to the sustainable development goals?
- Prof Mike Wingfield, head of the Forestry and Agricultural Biotechnology Institute (FABI) and president of IUFRO: Plantation tree health – increasingly threatened by pests and pathogens;
- Dr Brian Via of Auburn University in Alabama, USA: Rapid screening tools for wood properties of eucalypts and other species;
- Prof Francois Engelbrecht a chief researcher
at the CSIR natural resources section: Future climate change over Africa and potential implications for the forestry sector;

- Prof Colin Dyer of the ICFR: 70 years of applied forestry research at the ICFR;
- Dr Catherine Sutherland of the UKZN School of Built Environment and Development Studies: The social impacts of forestry;
- Dr Andrew Morris of the ICFR: Productivity trends in SA industrial wood plantations: where can research investment add value?
- Dr Gillian Petrokovsky of IUFRO’s Special Programme for Development of Capacities (SPDC) at Oxford University: Feedback from the IUFRO SPDC workshop on systematic review in forest science; and
- Janice Burns of IUFRO and the International Forestry Students Association (IFSA): The global outlook on forest education.

With representation from 15 countries, the event was attended by over 250 researchers, forestry managers, academics, students, and others working in the forestry public and private sectors. African delegates who had attended IUFRO’s SPDC pre-symposium workshop on systematic review as well as representatives from the IFSA were also among those who attended.

In addition to the regular format for papers and posters, this year’s symposium incorporated panel discussions which facilitated the sharing of expertise, and “speed papers” which let students and researchers share their work through creative and concise informal presentations. Sidhika Naidoo of the ICFR says valuable discussion points and new ideas were generated by the enthusiastic interactions.

The poster session was held during evening cocktail Party, which celebrated the ICFR’s 70th birthday. The party was thoroughly enjoyed by the scientists who let their hair down and grabbed the opportunity to network an catch up with their friends and peers.

Sally Upfold said these opportunities to network and interact with others in the forestry industry form one of the greatest highlights of such events.

A judging panel scored all the paper and poster contributions in terms of quality and relevance. The Best Paper Award went to Mondi’s Dr Kitt Payn and runner up to exciting new researcher, Tatenda Mapeta, from NMMU. In the Speed Paper sessions, Dr Benice Sivparsad and Dr Kabir Peerbhay of the ICFR took home both first and second prizes; respectively. The prize for the Best Poster was awarded to NMMU postgraduate student Kylle Schwegman while the ICFR’s Nkosinathi Kaptein was the runner up.

Sally Upfold concluded the successful symposium by thanking everyone and the sponsors. She said “The future is bright, and in the words of Nelson Mandela, ‘The role of scientific knowledge is to ensure that decisions are made based on fact and knowledge rather than belief, myth, and superstition’."

The sponsors who made it all possible included DAFF, Ellepot, EziGro, Forestry South Africa (FSA), Hayfields Mica, Husqvarna, Land Resources International (LRI), Merensky, Mondi, NCT Forestry Co-operative, NTE, PG Bison, Safcol, Sappi, Sunshine Seedlings, Sutherland Seedlings, TWK Agri, UCL, World Hardwood, and York Timber.
Cut high branches down to size

The STIHL range of pole pruners combine power, precision, convenience and comfort for professional-grade cutting up to 5m in height from the safety of the ground. The HT 102 is a high performance model for precision cutting, using a low emission engine plus a simplified starting procedure and one-touch stoppin. It has a redesigned gearbox and an improved air filter that delivers excellent air filtration for extended service life. The STIHL HT 103 professional pole pruner with telescopic shaft is lightweight and extremely ergonomic and stable due to the reduced weight of the square-cut telescopic shaft. It has a compact transmission and captive nut on the sprocket cover and an optimised cutting performance due to the 1/4” PM3 saw chain and new product generation 4-MIX® engine with a simplified start system. The HT 133 model is the most powerful model for professional tree maintenance, with an ideal power-to-weight ratio for demanding cutting work. Both the HT 103 and HT 133 offer a total length of 270 – 390 cm with the cutting attachment. Use STIHL professional pole pruners to power through your pruning.

Like any superior item, STIHL products are only available at specialised dealers nationwide, for expert advice and matchless after-sales service.
Representatives from the International Forestry Students’ Association (IFSA) took the opportunity to end their memorable visit to South Africa by attending the science symposium and ICFR birthday celebrations. The International Forestry Student’s Symposium (IFSS) is the biggest annual IFSA event and this year the two-week event took place in South Africa and students from over 30 countries travelled hundreds of kilometres throughout the country to experience the social, economic, industrial and political factors affecting our forestry landscape. Their visit concluded with the IFSS general assembly, at NMMU’s Saasveld campus.

IFSA provides a platform for students of forest sciences to enrich their formal education and facilitates practical experiences. It does this by encouraging collaboration with international partner organisations and is a network that encourages student meetings, enables participation in scientific debates, and supports the involvement of youth in decision making processes, and international forest and environmental policy.

The IUFRO Special Programme for Development of Capacities (SPDC), in collaboration with the ICFR and the UK’s University of Oxford, organised a three-day training workshop on systematic review in forest science for early- and mid-career scientists working in forest and tree-related research from developing countries in the African region. The group took the science symposium by surprise when they went on stage to sing and share the joy of being part of forestry in Africa.

The Forest Science Symposium coincided with the ICFR celebrating its 70th birthday. The comprehensive poster exhibition displaying the history of the ICFR’s partnerships within the forestry sector, and its research efforts towards addressing current and future challenges, was viewed with interest by young foresters and nostalgia by the “oldies”.

In the speed paper sessions, the ICFR’s Dr Benice Sivparsad took home the first prize and Dr Kabir Peerbhay was runner up.
DANA will host an Africa forest industry investment conference at Skukuza conference centre which is inside Kruger National Park on 12 and 13 September 2017, and it will be immediately followed by a two day field trip.

This conference follows on from its successful initial Africa Continent Forest & Wood Products Investment Conference held in Durban in September 2015.

DANA says it is pleased to have secured the assistance of well-known South African industry advisors from Forestry Solutions, based in White River, Brad and Gill Shuttleworth, to ensure that everything runs smoothly.

We look forward to welcoming all delegates to this very exciting and informative event. The wide range of topics and the speakers that have been confirmed are:

**Opportunities for global timber investors in Africa**
Olé Sand - CEO, Criterion Africa Partners,

**Managing a major forestry and wood processing operation in Africa: A York Timbers Experience**
Pieter van Zyl - CEO, York Timbers

**Improving forest asset values by optimising cash flow returns and productivity**
Charl de Villiers - principal, Parry Management Consulting, London

**Tanzania: Private sector plantation forestry, forest industry and market opportunities**
Hans Lemm - CEO of Kilombero Valley Teak Company, Tanzania

**Kenya: Private sector plantation forestry, forest industry and market opportunities**
Tevis Howard - founder and CEO Koranza

**Swaziland: Private sector plantation forestry, forest industry and market opportunities**
Ferdi Brauckmann - executive manager TWK Agri, (Shiselweni Forestry Company), Swaziland

**Malawi: Private sector plantation forestry, forest industry and market opportunities**
Paul Jacovelli - Head of Forest Investment Division, UNIQUE Forestry & Land Use, Germany

**Uganda: Private sector plantation forestry, forest industry and market opportunities**
Ferdie Brauckmann - executive manager TWK Agri, (Shiselweni Forestry Company), Swaziland

**Mozambique: Private sector plantation forestry, forest industry and market opportunities**
Paul Jacovelli - Head of Forest Investment Division, UNIQUE Forestry & Land Use, Germany

**Advances in breeding Eucalyptus sawlog species/hybrids**
Dr. Steve Verryn - Tree breeding specialist, Hans Meensky

**The need for good applied research in support of new plantation development**
Andrew Morris - Research Manager for the Institute for Commercial Forestry Research (ICFR) South Africa

**Motivational key note speaker**
Zelda la Grange - Former PA to President Nelson Mandela

**The importance of Third Party forest and wood products certification**
Chris Burchmore - FSC regional director

**African plantation for sustainable development, Ghana: A major Investment in forest plantations and biomass energy**
Finn Jacobsen - CEO, The African Plantation for Sustainable Development Ltd (ASPD), Ghana

**The global & African woodchip - biomass trade: Outlook and opportunities for new African projects**
Robert Flynn - director, International Timber, RISI, USA

**Quantum global investments in African forestry**
Joao Le - CEO, The Navigator Company, Mozambique

**The Navigator Group: Mozambique Case Study: Perspective of a European pulp and paper leader on investing in Africa**
Jooa Le - CEO, The Navigator Company, Mozambique

**Key note speaker: Challenges and opportunities of making major Investments in Africa**
Stephen Jennings - director, Rendeavour Group, London

**The current and future wooden pole market in Africa**
Pierre Tullis - MD of African Certification and Testing (ACT)

**CBB: A case for sustainable natural forest management in Sub-Saharan Africa**
Emmanuel Groutel - director marketing & sales, Compagnie des Bois du Gabon
NCT Forestry's AGM was the ideal platform to reveal its Tree Farmer of the Year. Geoff Wolhuter and Mandla Mvelasi were recognised for their excellence in sustainable plantation management which has earned them a place on the exclusive list of achievers in tree farming.

Each winner received a Stihl chainsaw sponsored by Stihl Pietermaritzburg & PMB Power Products. The NCT Tree Farmer of the Year was initiated in 2001 and is awarded to tree farming operations that display excellence in sustainable plantation management.

Commercial Grower of the Year
In the category, Commercial Grower, Wolhuter took top honours. He manages Elandspruit farm in New Hanover outside Greytown and is a sixth generation Wolhuter on the farm. He spent much of his youth riding motor bikes and is a four-time SA champion in the enduro-motocross disciplines.

He returned to the family farm in 1999 and now manages the timber operations. The farm is 450ha in extent with 220ha planted to wattle, 75ha to gum and 10ha to pine. The remainder of farm is made up of maize and vegetable farming, and about 80 head of cattle.

NCT's Awards panel noted exceptional silviculture practices, effective weed control, harvesting operations and firefighting capacities are compliant with all aspects of sustainable plantation management and minimising impacts on the environment. Open areas on the farm consist mainly of riparian zones, grasslands and bush. A healthy antelope population, birds of prey and serval can also be found on the farm.

With a strong sense of community, Wolhuter is the outgoing chairman of the New Hanover Farmer’s Association and has served on the Umshwati Agriculture Union for six years. He hosts an annual biking event to raise funds for the local school and regularly donates materials to the local community.

Through good species selection, excellent silviculture and efficient harvesting, the operation has remained sustainable under challenging conditions. The panel said Wolhuter’s farm is a good example of how balance between economic objectives, social stability and environmental sustainability can be achieved.

Small Scale Grower of the Year
Mvelasi Enock Mvelasi received the coveted award in the category Small-scale Grower. Working as a bus driver, Mvelasi said he always believed that he would have his own business one day. A resident of the Macambini tribal area near Mandini along the KZN north coast, he initially hauled sugar cane for the community to mills at Matikulu. Gradually he felt drawn to forestry and began buying standing timber plantations from the local community. He sought permission from the local chief to utilise abandoned land for tree farming, and today he is the proud owner of 35ha consisting of C.henryii and GxU species.

A long-standing member of NCT, Mvelasi compliments the co-operative for its services rendered to members, its effort to nurture and share vital forestry information to enable his business (and trees) to grow. Member workshops, and a good payment and bonus system have all contributed to the success of his enterprise. Timber farming has enabled him to purchase equipment for the business, provide an education for his children and improve his standard of living.

The Awards Panel said Mvelasi follows meticulous methods in land preparation, matching well-prepared sites to species, and applies effective fire prevention methods and silviculture. He was judged to be a worthy winner in the category, and shows determination, passion and the willingness to learn from professionals.

Tree farmers awarded for excellence
Ezigro at the forefront of seedlings industry

Since its establishment in 2002 by forestry industry veteran, Charl Rorich, Ezigro Seedlings has grown into one of the top seedling producers in South Africa. With six nurseries in South Africa and one in Swaziland, the company produces Eucalyptus, wattle, and pine seedlings and clones, as well as a wide variety of vegetables, fruit, Macadamia, Avocado, and indigenous trees.

It is also at the forefront of clonal and hybrid species production, producing on average around 35 million forestry seedlings per year, as well as approximately 12 million in Eucalyptus clones and pine clonal stochybridsk.

“We employ 460 people in South Africa and Swaziland,” says Ezigro CEO, Anthony Baird.

Former owner, Charl Rorich, bought the company – at that time mainly focusing on the production of vegetable seedlings – in 2002, and set out to change the focus to the production of forestry seedlings, using his extensive knowledge of the forestry sector to propel the company to the forefront of the seedlings production industry in just a few short years.

After Rorich’s passing in December of 2016, the majority of the ownership of the company was left in the hands of his wife, who appointed some key staff members and shareholders into management positions to ensure the future of the company.

Former Marketing Director, Anthony Baird was appointed CEO, while longtime staffer Karen Steyn was retained in her position as general manager, and Isaac Sibiya was appointed to the role of Nurseries Director.
Together, they share that same spirit possessed by Charl Rorich, ensuring the company’s continual growth and maintaining its reputation as one of the foremost seedling producers in the country.

According to Baird, a large part of ensuring the continual growth of the company comes down to keeping your ear on the ground and making sure that you are correctly positioned in the market to take advantage of new trends and new developments in the industry.

While continuing the push to grow its forestry clonal operations in both pine and Eucalyptus, the company has also identified a major shift in the agricultural sector toward the cultivation of avocado and macadamia crops. As an early identifier of this trend, the company has managed to take full advantage by quickly expanding their production to include large volumes of both avocado and macadamia.

The company’s headquarters, situated in White River, remains the hub from where all their projects are coordinated, and produces approximately 65 million vegetable seedlings and 35 million seedlings per year.

The company’s focus on clonal stock production is done from the ex-Mondi Fountains Nursery, also based in White River. It is from here that the bulk of their 12 million clonal seedlings is produced every year.

With pests and diseases causing hundreds of millions in damage to forests around the world annually, it has become essential to try and develop species with higher degree of tolerance against tree diseases and pests.

Water scarcity is also a huge concern for foresters worldwide, and the development of species that are more hardy in drier conditions are also of the utmost importance.

“We do not only breed for higher tolerance against disease, but also to achieve higher yield, taking the best qualities of every species and trying to combine those qualities.

“Although there is still a space for natural seedlings in South Africa, it has to be recognized that clonal is the future,” says Baird, adding that some of the largest forestry companies in the country are moving to become completely clonal.

Ezigro remains at the forefront of research and development in the clonal space. One example of this is a pine hybrid research and development project currently underway at their Karatara Nursery in the southern Cape.

They have also recently managed to make a breakthrough in the fight against the dreaded wattle rust, having bred a tree in collaboration with the NCT Forestry Co-operative that seems to show higher tolerance levels against the disease.

“We are currently in the process of cloning it and research and testing is ongoing,” says Baird.

Another focus of Ezigro, is sustainability. The company has set out to ensure that all their nurseries are as water conscious as possible, and is looking at various ways of saving, as well as harvesting water.

They are also continually developing other methods of saving water, like testing different planting and growing mediums that require less water, or that retains moisture better.
The industry is not without its challenges though. According to Baird, there are a number of challenges for nurseries in South Africa, one of which is the fact that more and more large forestry operations are beginning to produce their own seedlings, rather than purchasing seedlings from nurseries.

We are also noticing a definitive move away from the forestry sector, with many land owners opting to plant standing crops instead of forestry crops, as these produce profit on an annual basis, where timber forestry has a much longer turnaround time.

“This is why it is so important for us to stay on top of our game,” says Baird. “You have to keep your finger on the pulse of the industry and stay ahead of the trends, so that you can take advantage of whatever opportunities arise.

“We are constantly expanding our offering, identifying and developing new products and new markets for our products.”
Brian Law Seedlings has been at the forefront of the industry in South Africa for over 25 years.

Law likens cloning to mechanisation, saying that while mechanization can be a good thing, it still is only as good as it is managed.

"You can have the best machines in the world installed, but if it is not properly managed, it is not going to do you any good."

That being said, Brian Law Seedlings is no stranger to mechanisation, having invested in mechanised sewing machines, tray fillers, and a system to control the movement of stock within the confines of the nursery.

Due to huge demand within the market, the company is expanding its Macadamia production activities.

Brian Law Seedlings, situated in White River, has been at the forefront of the seedling industry for over 25 years, specialising in Eucalyptus, pine and wattle varieties for timber forestry, as well as a wide variety of vegetables, tobacco and peppers.

The company has also recently become heavily involved in the cultivation of a variety of macadamia seedlings to satisfy the rapidly growing demand for these trees. The seedlings industry has faced many challenges in the 25 years that the company has been operating, and according to owner, Brian Law, the industry is quite sturdy and resilient. "The forestry seedling industry has its challenges," says Law, "But it has, and will continue to overcome obstacles, including economic pressures, droughts and fires.

"Timber is a valuable commodity and as such there will always be a demand."

While the company is involved with a cloning initiative, which they are undertaking with a partner, the vast majority of seedlings provided by Brian Law Seedlings are grown from seed.

This, according to Law, is due to the fact that, even though trees are cloned for their higher resistance to pests and diseases, there is no way to guarantee the safety of plantations against pests and diseases without proper plantation management.

"The fact is that despite all the work and research done on cloning, there still are no varieties that are completely resistant to diseases and pests.

"The best approach remains the proper monitoring and management of forests, and the correct treatment with the relevant chemicals to eradicate diseases and keep plantations healthy."
“In addition, we are concentrating on pelletised seed, that significantly improves accuracy during the planting process – especially when you are working with very fine seed, like tobacco, or *Eucalyptus*.”

While covering the entire vegetable spectrum, as well as forestry timber species, the company also has a strong focus on the tobacco and macadamia markets. “The tobacco market is still going strong,” says Law, adding that, although a lot of tobacco leaf production has resumed in Zimbabwe, the South African market is doing quite well.

The macadamia market, currently experiencing remarkable growth, has also proved to be a winner for the company, with current macadamia orders at Brian Law Seedlings exceeding 160 000 trees.

“We specialise in grafting macadamia seedlings,” says Law, explaining that they graft one species on top of another to get both the stronger root system of the base species, with whichever required traits of the top species.

Some are grafted for their hardiness, while others are for higher yield, or for specific nut qualities.”

According to Law, he has not seen any evidence that the timber forestry industry is under threat from macadamia production.

“Macadamia production is experiencing remarkable growth at the moment,” says Law. “But I don’t think that it is the cause of any significant reduction in timber forestry.

“Drought, theft and fire have had a far bigger effect on the industry of late, and though the industry is not exactly flourishing at the moment, I do not perceive it to under any significant long term threat.
Umvuni Solutions, just five months into a five year contract with SAPPI for logging at the beautiful Houtboshoek plantation at Ngodwana near Nelspruit, now boasts with massively increased capacity thanks to their new HT loggers from local manufacturer Hin-Tech, enabling the company to fulfill its quota with relative ease.

According to Umvuni Solutions owner, John Roux, a veteran of the industry, a major reason why he chose Hin-Tech as his preferred supplier, is the fact that their machinery is for the most part, component-based.

“I am able to choose everything from the tyres, to the engine capacity, as well as the hydraulic system to fit the application that I am using the machine for,” says Roux, who also specified toolboxes added to the HT Loggers as part of his order from Hin-Tech, adding that the service that he receives from Hin-Tech is another big reason why he chose to source his forestry machinery from them.

“Hin-Tech is small enough to provide customised solutions to my needs, and often the team who built the machines, is the same team I see in the forest supporting the machines.

“By going with Hin-Tech, I know I may have to wait a little longer for my machines as each machine is made to order, but the fact that I am able to choose the different options and have them assemble the machines the way I want them, means I get the machine that is perfectly suited to my application.”

In fact, Hin-Tech is so flexible in terms of their custom offerings, that they even agreed to forego their customary orange colour on Umvuni’s machines, instead delivering them in the yellow and blue requested by their client.

“Also, the Hin-Tech HT Loggers are German engineered and locally produced, and they are widely known as the strongest on the market with incredibly solid frames, which, taking into account the hard terrain we are working, is ideal for us.”

According to Roux, the HT Loggers from Hin-Tech are also preferred by operators for their comfort. The cockpit is a little larger and the seating position and instruments is such that it boasts with much increased ergonomics.
**HT EXCAVATOR SHOVEL YARDER**

- Turn your Excavator into a useful and powerful Skyscraper Universal Yarder or Highland
- Working Range: 300m
- Load: 3.0 ton

**HT 2.3A LOGGER**

- Extracting, stacking and loading of legs.
- Max Lifting Height: 4.3m
- Operating Weight: 5.5 ton

**URUS III UNI 500-2.5**

- Skyscraper Universal Logging Yarder for uphill and downhill logging.
- Working Range: 500m
- Load: 2.5 ton
"The fact that they have opted to cool the hydraulic oil by flushing it through a cooling tank at the rear of the machine adds to the good ergonomics of the cockpit by eliminating a lot of the heat inside the cockpit, and it also results in a longer life for the wear and tear parts of the machine.

In addition to a whole host of safety features, including a four point safety harness, LED lights, the enforced cockpit, lockable seats, an anti diesel-theft system, a master cut-off switch, safety doors, and exceptionally strong frames, the HT Loggers also feature a slightly longer boom, making it much easier for operators to do loading on trucks with high sides.

According to Hin-Tech owner Karl Hinteregger, Hin-Tech machines are equipped with only the best in engines from German manufacturer, Deutz, and pumps from Sauer Danfoss.

"Due to the strong relations built up with Sauer Danfoss, a servo control pump, which ensures the easy and soft operation of pedals, is also now available."
Addressing the Southern African Institute of Forestry (SAIF) 49th AGM, the president of the institute, Hannél Ham, reminded members that change is inevitable and that the council realised that in order to stay relevant, the SAIF needs to adapt timely to change and constantly revise membership benefits.

“We are experiencing a steady decline in membership numbers, and this can be attributed to the fact that most of our members are older than 50 years or retiring. We need to encourage new members to join.”

Some of the strategies the SAIF is investigating to engage with and attract new members include:

- A Continuous Professional Leadership (CPL) system to assist with South African Council for Natural Scientific Professions (SACNASP) registrations, international accreditation, etc. The CPL is in its final stages and will be rolled out early 2018. A pilot phase will commence late 2017.
- Social media warriors: modern communication channels such as twitter, facebook etc. will be used for general communication. Social media shy members will still be kept up to date.
- Increase awareness of forestry as a career and to the general public as a friendly and green partner.
- Web-based interactive membership database to assist with generating of electronic membership certificates, invoices, notices etc. Members would also be able to update details online.
- New handbooks:
  - Silviculture handbook to be released in 2018
  - Timber transport handbook to be released in 2019.
- Extra pages (print) in the Southern Forests Journal and a higher impact number. The online system is also being implemented in the background. Details will follow.
- Register Forest and Wood Sciences as a separate field with SACNASP.
- An international forestry framework to improve interaction, bursaries and exchange programs with international forestry associations in Australia, New Zealand, Canada, USA, Europe and elsewhere. This will also assist with international accreditation.

SAIF’s 49th AGM reviewed the past year, presented awards, and celebrated champion trees

Prof Pierre Ackerman of Stellenbosch University with the Dedicated Service Award he received the Dr Dave Drew at the SAIF AGM
The biggest calendar event that council is planning is the celebration of the SAIF’s 50th birthday on 17 May 2018.

**The highlight of the AGM was the presentation of the SAIF’s Awards:**

- Dr Dave Drew presented the Dedicated Service Award to Prof Pierre Ackerman of Stellenbosch University
- The Distinguished Forestry Award was presented to Prof Jolanda Roux by Dr Steve Verryn
- It came as no surprise to the members present when Corine Viljoen was recognised for her continuous and dedicated service to the SAIF over many years, and received the Dedicated Service Award from Hannél Ham

The key note address at the AGM was a presentation by Izak van der Merwe, the coordinator of the Champion Trees of South Africa project. Some of the indigenous trees he referred to are:

- *Baobab trees* (*Adansonia digitata*). One of these, the “Sagole tree”, considered the largest indigenous tree in South Africa with a trunk diameter of 10.8m.
- *Wild Fig trees* (*Ficus* spp.). The “Wonderboom fig tree” (*Ficus salicifolia*) in Pretoria is more than 1000 years old. A tree near Albertinia has been discovered that has a trunk circumference of 14.6m and is thought to have been planted 200 years ago.
- *Outeniqua Yellowood* (*Afrocarpus falcatus*). One of these giants in the Tsitsikamma forest called simply “the Tsitsikamma Big Tree” attracts more than 80,000 visitors a year.
- *Monkey Thorn* (*Acacia galpinii*). One of these trees in the North West province, at 37m in height, is the tallest measured thorn tree in Africa.
- *The Matumi* (*Breonadia salicina*). At 33m, the largest Matumi in the country is one of three collectively known as “The Three Queens” in the Limpopo province.

Some of the exotic species mentioned were:

- *Red River Gum* (*Eucalyptus camaldulensis*) at the University of the Witwatersrand planted more than 80 years ago has the largest spread of any tree at 38m width and a trunk diameter of 7.5m.
- *Moreton Bay Fig* (*Ficus macrophylla*). One of these at the University of Cape Town was planted in the 1800s.
- *Camphor trees* (*Cinnamomum camphora*). A lane of these trees, planted under the supervision of former Cape governor Willem Adriaan van der Stel more than 300 years ago are the oldest recorded planted trees.
- *Redwood* (*Sequoia sempervirens*). One giant in the Western Cape stands 58m tall.

Van der Merwe surprised the SAIF members with interesting facts like:

- Seven tonnes of mopani worms are exported to France each year
- There are eight armed rangers in the Kruger Park protecting the pepper bark tree. These are the only trees in Africa with their own army.

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Prof Jolanda Roux: passionate about keeping trees healthy through exploration and friendship

Prof Jolanda Roux is one of South Africa’s highly respected and internationally renowned scientists who is the recipient of innumerable prestigious local and international awards, and was honoured in 2011 by Queen Elizabeth II who personally handed over the Commonwealth Association’s Queen’s Award for Forestry to her because Jolanda is the first - and to date the only - woman to receive the award.

Jolanda recently transitioned from academia to the corporate world. She is now a principal research officer for pests and pathogens at Sappi. Based at the Sappi Shaw Research Centre in Howick, KZN, she is responsible for pest and disease identification, management, research into reducing the impact of these organisms, extension, and training of foresters in pest and disease recognition.

WSA&TT caught up with Jolanda on her return from the IUFRO-INAFOR conference in Yogyakarta, Indonesia, to find out what drives her, what is on her bucket list and whether there is a particular fungus she has in her sights.

What follows is a synopsis of the career of a woman who is a role model for South Africa’s future tree scientists:

Why the move to Sappi?

“I worked in academia my whole life, and even with a good dose of field-related research still feel a need to get closer to the trees and the ground. I also want to increase my knowledge, solve problems, and gain experience. In short, I want to continue learning and growing. The position at Sappi is an opportunity to do that and to link academic research results and the application thereof in the field. My goal is to improve the quality of the trees Sappi grows by reducing the impact of pests and pathogens.

“The current projects include biological control of *Sirex noctilio*; trapping of cossid moth males using pheromones to reduce their populations and impact on *E. nitens*, identification of a root disease problem on *E. nitens* and the development of disease management strategies to optimise production for Sappi.

How can forestry companies influence future research?

Forestry is still an unusual choice for further studies. Most school leavers do not know what it is and that it leads to so many career opportunities with a forestry connection – from planting and harvesting trees to flying drones or using gene editing on pathogens and pests.

Commercial forestry companies have a critical role in the development of new young scientists. They do this through their programmes to provide students with practical, on-the-job experience. At the same time, many people are participating in forestry related activities through initiatives such as Sappi’s Project Grow. I believe private companies have a responsibility to broaden the horizons and opportunities for people at all levels.

What made you decide to become a fungi fundi?

Fungi are beautiful - even the tree killers - and are essential to life on earth. They are incredibly powerful microscopic organisms in their own taxonomic kingdom, and all plants need them to survive. People often associate the word ‘fungus’ with a mushroom ‘fairy ring’ on the grass, but what we see is only the fruiting structure of the fungus and, at that, only a small part of it. The rest, like an iceberg is below the surface.

Fungi have complex interactions with all living organisms on earth and are the foundation of healthy ecosystems, provide us with food, good drinks, medicines, and visual pleasure. Pathogens can, however, also destroy our livelihoods if not managed.

I am a tree pathologist and conduct research on micro-organisms, especially fungi, and their insect associates that cause diseases of trees. This involves the early detection and identification of diseases, the characterisation of the causal agents of tree disease and the elucidation of the epidemiology of the pathogens and the diseases they cause. This information is used to develop and optimise management strategies to reduce the impact of pests and diseases on plantation forestry.
You can change things by being yourself, professional and courteous,” is the advice from Prof Jolanda Roux when asked what she says to young women who are deciding on a career.

- Be prepared because life involves sacrifices and disappointments, BUT they make the successes so much better.
- Choose a career you are passionate about. There is no such thing as a job for men and a job for women.
- Don’t let people tell you what you like and who you are – only you can know that.
- Make friends, and keep them – nurture the friendships in your career and private life. They are equally important and can be equally rewarding.
- Sharing still brings the biggest rewards and keep us as humans healthy and happy. Do not sacrifice your family and friends – keep the balance (this will be very tough at times, but never stop talking to your family/friends, keep them in the loop)
- Do not sweat the small stuff – gossip will always be there, and not everybody will like you! Do not let the “chip on your shoulder” rule your life and keep you from making great friends and having wonderful new experiences.
- You can change things by being professional and courteous.
- Enjoy life and have fun”

Will your job at Sappi impact on your passion for developing young scientists?

I am still involved with the University of Pretoria and FABI, specifically the Tree Protection Co-operative Programme (TPCP), as extraordinary professor and supervise several MSc and PhD students there. We work on topics such as the diversity, impact and epidemiology of several tree pathogens, including their arthropod associations.

These projects include studies into leaf pathogens of temperate and sub-tropical Eucalypts in South Africa, Myrtle rust of Eucalypts and other Myrtacea Acacia rust of A. mearnsii, as well as a project on the pitch canker fungus of Pinus species, Fusarium circinatum.

I also have a student completing a project on wood rot fungi in the Garden Route National Park and one working on diseases of cycads (Encephalartos species) in South Africa. We are also part of a National Geographic project in Angola assisting with the identification of mushrooms in the catchment areas of rivers that feed the Okavango Delta in Botswana.

Forestry is a science, and with my position at Sappi, I will always be interacting with students during their practical training periods, foresters in training and the many young foresters employed by the company. I look forward to working with them and encourage them to become more familiar with fungi and insects during their careers.
By the time you reach the age of 16 you are expected to make subject choices towards a career. There are very few people today who have made a decision and stuck with it for the rest of their lives.

When Prof Jolanda Roux applied for her first “job” as a high school student she was turned down because the job was reserved for men. “I was advised to study teaching, nursing or some other more traditional career. Eventually I enrolled for a basic BSc biological sciences degree to at least do something and hopefully see what options there were,” she says.

For the first 11 years of her life, Jolanda’s love for the outdoors, nature and adventure was nurtured on a farm near Winterton, KZN. Sadly, however, she was uprooted when her parents began a series of moves that saw her attending five different schools and moving from KZN to George, Ceres, Cradock and then the University of the Free State in Bloemfontein.

“All the moving around gave me itchy feet and I still love travelling and exploring new places. I prefer dorpies (small towns) and above all the country side, peace and quiet. I would love to go back to farm life, or live out on a quiet plantation with my husband, cats and dogs,” she says.

A chance meeting leads to new horizons

Jolanda’s BSc included microbiology and chemistry and in her final semester of undergraduate studies she met Prof Mike Wingfield, director of the TPCP and FABI. “He told us about tree health and forestry and I saw the opportunity to go outdoors and work with nature, which is what I really wanted to do.”

Positive experience in the forestry community

“My experience in forestry was positive from the first time I joined the TPCP programme as an honours student. My first field trip to visit a commercial company was the final bit of convincing I needed that I should work in forestry and continue in tree health. The foresters were friendly, I could balance outdoor and lab work and travel in the country.”

During her post-graduate studies Mike Wingfield and Forestry South Africa appointed Jolanda as a field extension pathologist. She was responsible for disease diagnostics for the forestry industry, creating awareness of diseases amongst foresters and farmers and acting as a link between research and industry.

“I have experienced the minimum of prejudice in the South African forestry community and 90% of my experiences with the men in the industry has been positive. The problem men were in the minority and could be avoided or ignored.

“There are still very few field foresters that are woman, which is a pity, but over the last few years this has been changing. It is great to not be the only woman at a field day anymore, or at a forestry meeting. However, even in science and academia, there are still too few women in leadership positions, even though we represent nearly half of all academics and scientists in the country.”

Adventure, fantasy, and a bucket list

From a scientific point of view Jolanda’s species of choice is the Ceratocystis or the microascales, and she would love to discover more novel species / genera in that group. “They are the most beautiful fungi in the world. But, I also like macro-fungi (mushrooms, brackets etc.) and the Cryphonectriaceae. And, thanks to an Aussie colleague and friend, I enjoy finding rust fungi. I would like to ‘sort’ all of them and reduce their damage to trees where they are non-native and introduced through human activities.”

Jolanda’s bucket list is long and she is working hard at making a dent in it. It includes places to see like Mongolia, Russia and Iceland, and things to do such as sky diving, paragliding, skiing, and kite surfing. Adventure is in her blood and her hobbies include scuba diving, hiking, and anything outdoors and active. For relaxation, she likes to read stories about explorers and new discoveries and Terry Pratchett’s loveable, crazy witches.
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The South African forestry industry is a major employer of women, and there is a growing list of women achievers who are quietly making waves in the industry. One of these exceptional women is Jacqui Cochran, marketing manager of Husqvarna SA.

With an honours and masters degrees in languages (Zulu and French), Jacqui started out as a lecturer at the University of KwaZulu Natal. She then co-owned and ran a corporate eventing and teambuilding business in Durban and participated in her favourite sport, canoeing. While at school Jacqui had her sights set on becoming a vet, however in matric she realised that her passion was people rather than animals.

She has completed seven Dusi Canoe Marathons, and first encountered the Husqvarna brand when they sponsored the Non-Stop Dusi Canoe Marathon. She worked with Husqvarna SA on other sports events before they asked her to join them.

“I started working for Husqvarna in January 2011 as Marketing Manager so I found my “happy place” in the company from day one, for which I feel very blessed,” says Jacqui. “Being part of an international organisation that has pioneered world class products for over 328 years, and being custodian of the Husqvarna brand, which is represented in over 100 countries across the world, is an incredibly energising experience.”

Jacqui says she has the utmost admiration for foresters and chainsaw operators. “Operating a machine with potentially lethal power is both intimidating and exciting. Doing it daily takes courage and a serious amount of physical strength.” Jacqui took WSA&TT’s questions in her stride:

What is your working environment like?
Bustling with curve balls being served left, right and centre. It teaches you how to bob and weave; and smile and wave! Key ingredients to thriving in my job include the ability to plan, be highly organised and pay attention to detail, the ability to ‘multi-task’ and, naturally, good communication skills.

A necessary skill that I have had to acquire is learning what to learn! As for being a “woman in a man’s world”, I think the trick to being taken seriously in a male dominated environment is being well prepared, hardworking, and hungry to learn. My colleagues have always been willing to teach and upskill me.

What do you love most about your job?
I love that no two days are alike and I am constantly being challenged and stretched. The fact that our products serve a diverse range of customers, from foresters to farmers to homeowners, means that I have the privilege of interacting with a fascinating variety of end users. The marketing team is the hub of creativity within our organisation and requires that we bridge the gap between our world-class products and the people who use them daily.

What elements make a successful boss?
I prefer the word ‘leader’ rather than ‘boss’ because you can be a boss without being a great leader. Three hallmarks that define a successful leader are:

• Someone who has vision and can communicate that vision to their team so that they can take hold of it and breathe life into it.
• The ability to be curious, be open to new ideas, accept criticism, and embrace change.
• A great leader is someone who has empathy and emotional intelligence. If you care enough about your team and know their strengths and weaknesses you can establish a happy working environment and, in my experience, happy workers do better work!

How has sport influenced your work?
I have been a paddler since my early 20s, and there are few things as thrilling as navigating a canoe down a series of rapids. This requires discipline, intense concentration and a sense of adventure, which is how I approach my work. I have recently started running and am really enjoying the uncomplicatedness of the sport. Being part of the Husqvarna team lets me apply these lessons and expand my horizons. I believe that with grit and determination, we can achieve remarkable things.

Fill in the fun blanks for us…

• Speedcutting? I didn’t have the opportunity to compete in the National Speedcutting Championships that used to take place, but we ran an internal Ladies Chainsaw Racing competition for staff using our Husqvarna battery chainsaws and it was great fun.
• Bucket list? Run my first Comrades Marathon, tick off some of the destinations on my ‘Wanderlust’ list and complete three more Dusi Canoe Marathons to reach the 10-race mark.
• Perfect holiday? My sports offer ample bushwhacking opportunities, so when it’s holiday time, it is time to indulge in luxury. I love comfort foods, and Haagen Daz ice cream and an enjoyable book by Mary Higgins Clark.
Transport

Forestry equipment such as feller-bunchers, loaders, forwards, skidders and log handlers operate in extreme environments and it is impossible to avoid the accumulation of highly flammable saw dust, leaves, wood chips and other dry residues in the engine compartment. The heat of the engine or exhaust systems can easily ignite these dry materials.

In addition, the prohibitive cost of capital equipment is forcing machine owners to increase their machine utilisation periods, resulting in aging equipment with more electrical faults and mechanical failures that can cause fires. A leaking fuel injector, ruptured hydraulic fitting or burst oil feed near hot running engine parts or electrical components can result in an extremely hot, fast spreading fire. And, because timber and forestry equipment typically operate in remote or undeveloped areas where emergency fire services are not available, the need for effective fire protection becomes critical.

John Russell, managing director of Fogmaker South Africa, points out that, “The consequence of an engine fire in a forest machine is at best a production stop, and in the worst-case scenario the fire can quickly spread to other parts of the machine, endanger the lives of the operator and his colleagues, and even start a forest fire.”

International standard

Russell explains that automatic fire detection and fire suppression systems for commercial and heavy-duty vehicle engines are accepted internationally as the standard way to mitigate engine compartment fires. “For example, in Europe legislation has been passed which requires all new coach buses to have automated detection and suppression equipment as from October 2017.” He believes this legislative approach will eventually filter into the South African market, and be supported by insurance companies as they follow the international trend of offering discounted rates when the system is installed.

Fogmaker South Africa is the southern African distributor of Swedish company Fogmaker International’s water mist fire protection system. The Swedish company is the market leader in vehicle fire suppression in Europe, Australia and Middle East, with a proven track record with over 120 000 units installed worldwide since 1995. “The units have proven their reliability and durability in the demanding environments of buses, mines, marine applications, military, and forestry vehicles,” says Russell.

Superior extinguishing performance

“The extinguishing performance of our suppression system is unique as it tackles all three elements of the fire triangle. Firstly it removes oxygen, which quickly chokes the fire. It also cools down the sources of heat, and at the same time a foam additive provides a cover to prevent hydrocarbon fuels from being available to burn. The cooling and foam are critical in preventing the fire from re-igniting. We call this the Triple Action of the Fogmaker system.”

Russell describes how water mist, generated under high pressure through Fogmaker’s patented specialised nozzles, has superior extinguishing capabilities in engine compartments compared to traditional low-pressure foam systems. The nozzles create micro-drops with an average size of 50 micrometres. One drop of water, typically one millimetre in diameter, is converted to 8000 micro-drops. This water mist quickly floods the entire engine compartment...
and, when these drops come into contact with a hot surface or gas, they convert to steam. Through this process of water expanding into inert steam air, and with it oxygen, is forced from the fire area, thus choking the fire.

Due to the ability of water to absorb energy, the water mist has the added advantage of absorbing both radiant heat from the flames and latent heat from within the engine. The reduction of radiant heat helps protect wire harnesses and hydraulic piping, while cooling the engine compartment prevents re-ignition.

Fogmaker uses a “loss of pressure” detection tube, which is independent of electricity. This works even when the power supply is disconnected and no matter the orientation of the vehicle. “So, should the vehicle be involved in an accident and be lying on its side or up-side-down, the system will still be effective.”

Fire re-ignition is prevented by the adding of a small amount of foam to the water mist. The foam lies over the entire motor compartment like a choking blanket. The extinguishing fluid that is generated from the water mist is environmentally-friendly and easy to wash away. “Re-setting a released suppression system is often simpler, easier, faster and much cheaper compared to powder or foam suppression systems.”

Maintenance

Once a year, the fire suppression system should be inspected and the functions tested by a certified installer. Normally, this does not take more than an hour. Besides this annual inspection, as the cylinder is classified as a pressure vessel, South African regulations require the cylinder to undergo a visual assessment, wall thickness and pressure testing by a certified authorised inspection authority every three years, and Russell says Fogmaker’s service technicians use this opportunity to replace the suppression fluids and seals.

The system is being offered as an optional extra by several OEMs, however it is easily retro-fitted on site in an engine compartment. Fogmaker South Africa has installed fire suppression systems on Hitachi, Volvo, Doosan, Tigercat, Bell, Timberpro, John Deere and AHWI forestry equipment.

The Fogmaker high pressure water mist system suppressed the simulated fire within 10 seconds and reduced the temperature to below 100 degrees C.
Bell Equipment’s products are not only limited to its extensive range of earthmoving machinery, the company also has an extensive range of oils, fluids and greases - collectively known and branded as Bell Lubricants - that are specially formulated to enhance machine life and performance.

Bell Equipment product manager, Twan Bell, says: “Bell Lubricants is an initiative by Bell Equipment to provide added value to our customers through our comprehensive programme of after sales products and services. As a multi-brand application, the range is not limited to Bell machines and it is supported by the provision of key technical assistance and advice.”

For example, using Bell recommended oils ensures efficient performance and optimum protection of your machine’s engine. However, the company advises that maximum benefit is derived by using low sulphur fuels because the sulphur in diesel forms sulphuric acid that plays a significant role in increasing engine wear.

“Using low sulphur diesel forms less sulphuric acid when combusted, which leads to lower engine wear rates, reduced harmful exhaust emissions, improved combustion properties and longer engine life. Sulphur in diesel leads to the formation of sulphate particulates. In the engine oil, these cause depletion of additives and reduced oil life,” explains Twan.

She continues: “All the products within the range are OEM approved and have been developed and approved for yellow metal and commercial trucking. As a premium brand offering ‘Advanced Liquid Protection’, Bell Lubricants have been specifically blended to suit the specific characteristics of components as well as the harsh applications that the machines are subject to. Superior performance is assured by the fit-for-purpose design that promotes the protection of engines, axles, transmissions and all components.

Bell Lubricants, like Bell genuine parts, are conveniently distributed to and sold by Bell Equipment’s 23 Customer Service Centres situated throughout South Africa, which are well stocked and can deliver overnight, to make service and maintenance of machines a whole lot easier. Twan says their product offerings are part of the company’s commitment to live its mantra, “Strong Reliable Machines, Strong Reliable Support”.

Choosing the right oil for your machine is made easy with the product data sheets, which are available on the Bell website: www.bellequipment.com

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Bell is proudly committed to living the Bell motto of 'Strong Reliable Machines, Strong Reliable Support'. Contact your nearest Bell Customer Service Centre for more information on Bell Lubricants.
UD Trucks Southern Africa (UDTSA) has launched its new Croner heavy commercial vehicle (HCV) range, named after Chronos, the god of time in Greek mythology.

Featuring 13 variants, the new product range offers up to 21 configurations. The range will be assembled from semi-knockdown (SKD) kits imported from Thailand, similar to the Quester extra-heavy truck range.

This means only the Quon extra-heavy truck is still sourced from Japan, as UD Trucks continues to develop the Thai plant as a supply source for developing markets. The company is active in more than 60 countries, however South Africa remains the Japanese truck-maker’s biggest market outside Japan.

“We are excited to see the Croner in our region,” says UDTSA MD Gert Swanepoel. He says the HCV market in South Africa dropped from 6 719 units in 2015 to 5 556 units in 2016, adding, however, that the general growth trend in the last few years has been positive.

Volvo Group Trucks Asia sales president Jacques Michel says the Croner is one of UD Trucks’ “most fuel-efficient trucks. Thanks to the new GHE engine series, automatic transmission, a built-in fuel coach and a more aerodynamic cab.”

Durability testing was conducted over an equivalent of three-million kilometres. In addition, 1.4-million kilometres of field tests within actual customer operations were carried out across six countries and three continents over a period of 18 months, including South Africa.

The Croner range features three gross vehicle mass (GVM) models from 9.5 tonnes to 17 tonnes.

• The MKE is a compact-sized HCV truck optimised for urban use, with better manoeuvrability for narrow roads and city deliveries. The GH5E Euro 3 engine produces 136kW and 157kW of power, depending on the configuration. It is available with either a six-speed manual or automatic transmission, and features a 2.1m day cab.

• The 12 tonnes to 14 tonnes GVM LKE is a multipurpose model targeting largely in-city and city-to-city distribution. It features a 2.1m day cab. This class of vehicle’s GH5E engine produces 157kW of power, and is also available with either a six-speed manual or automatic transmission.

• The 15 tonnes to 17 tonnes GVM PKE is for medium to heavy-duty use, with an engine made for regional, long haul and heavier loads, and features a 2.3m sleeper cab. The six-cylinder GH8E engine delivers 186kW or 209kW of power, depending on the configuration. This model is available with a choice of either a nine-speed manual or six-speed automatic transmission.

The entire range of wheelbase variants can be configured to suit operators’ specific needs, with flexibility in everything from GVM and wheelbase choices to cab, driveline, axle and suspension.
Auditors trained to assess safety of transporting hazardous materials

Transporting dangerous goods, including hazardous chemicals, is associated with specific risks that could cause harm to people, animals, property and the environment in the event of an accident. It is therefore essential for hauliers and logistics service providers to have management systems in place to properly identify and control the risks arising from the transport of dangerous chemicals.

“The Responsible Care Safety and Quality Assessment System Southern Africa (SQAS-SA) Auditor Training is designed to evaluate the quality, safety and environmental performance of hauliers and logistics service providers and chemical distributors by means of standardised assessments carried out by independent CAIA approved third-party auditors every two years,” explains Deidré Penfold, executive director of the Chemical and Allied Industries’ Association (CAIA).

In August, the CAIA trained more than 20 auditors in SQAS. This system was originated by the European Chemical Industry Council (CEFIC), and the CAIA modified it to develop the SQAS-SA.

“Representatives from CEFIC, in collaboration with CAIA, conducted the training. SQAS-SA audits provide a mechanism to evaluate performance and promote continuous improvement within organisations,” says Penfold.

“The audits are carried out by professional auditors who have been trained and accredited by CAIA for each type of assessment module. Their performance is closely monitored by CAIA to ensure high and uniform quality of SQAS-Southern Africa assessments across Africa.”

Active safety package options available for Volvo Trucks

Volvo Trucks South Africa (VTSA) has invested R6.5-million into its semi-knockdown manufacturing plant in Durban to install and calibrate selected safety features that were previously not available in the local market.

Volvo Group Southern Africa president Torbjörn Christensson says safety has always been a core value of Volvo Trucks. “We believe that all original-equipment manufacturers or truck assemblers have a responsibility to provide the safest transport solutions to their customers, as this has a trickle-down effect to all road users.

“The impact that a truck has when involved in a collision is often very serious and we are constantly increasing the safety of our vehicles in a bid to decrease the overall impact on all road users in the event of a collision.”

Features from the Volvo Active Safety Package are available as optional extras on most Volvo Truck range models fitted with an electronic brake system, electronic stability control and disc brakes.

The safety package includes features like:

- Adaptive cruise control with forward and emergency braking. It automatically adapts the vehicle’s speed to the flow of traffic and informs the driver when the distance to the vehicle in front represents a risk. The system uses radar and camera technology that work simultaneously to identify and monitor the vehicles in the path of the truck.

- Emergency braking allows for an initial warning that consists of a red light on the windscreen, activated when the system detects a vehicle that the truck could collide with at its current speed. Should the driver not react, the warning signal is upgraded to a flashing red light, accompanied by audible beeping. If this is ignored, the system mildly applies the truck’s brakes. In the event of this also failing, the emergency braking system activates to ensure the truck does not collide with the vehicle.

- Lane keeping support reduces the impact of risk factors in traffic, such as tiredness or distraction. The system has been designed for long-haul operators and monitors the truck’s position on the road when exceeding speeds of 60 km/h. If the driver unintentionally crosses a road marking, the system alerts the driver through a buzzer.

- Lane changing support tells the driver there are vehicles in the truck’s blind spot.

- Driver alert support warns the driver if he or she becomes inattentive or drowsy. It uses a camera that tracks the position of the truck in its lane, while also monitoring the steering wheel movements of the truck.

- Alcolock technology is a factory-mounted electronic breath alcohol analyser, designed with the aim of reducing alcohol-related accidents. It requires the driver to take a breathalyser before the engine of the truck can be started. It consists of a stationary unit on the instrument panel of the truck and a hand-held unit with a cable.
B eing a new entrant to the sawmilling industry has its challenges, especially with the tough economic conditions in the country at present. But for newcomers, Iswepe Timber, now in operation for a full year, it was a natural progression from their rich family history in the forestry sector.

According to Iswepe Timber MD, Ralf Paul, his grandfather, along with a partner Johannes Vos – retired 2014 – started in the forestry sector in 1946 with the purchase of their first farm.

More followed, and in 1970, Ralf’s father, Eckhardt, joined the company. Over the next four decades, more farms were added, but in the last years, the family decided to expand the business to include sawmilling, with brothers Bruno and Ralf Paul running the forestry and sawmilling operations respectively.

The plantations that provide all the sawmill operation’s raw material, produce 50% pine, 40% eucalyptus, and 10% wattle.

“We had a lot of time to prepare the site and plan this sawmill,” says Iswepe Timber MD Ralf Paul. “And the fact that we are not really from a sawmilling background, means that we did not have any bias in terms of how things are supposed to be done.

“We did extensive research and visited sawmills all over the world to make sure that we did things as optimally as possible. Every inch of the sawmill line was planned and designed with optimal efficiency in mind.”

And this is obvious when you visit the sawmilling operation. Every step along the line is done as simply as possible, with no wasted effort and nobody standing around doing nothing. The waste management system is highly efficient and it is obvious that a lot of thought had gone into the planning of this operation.

“With the exception of the kiln and the boiler, we built this plant from scratch,” says Ralf, adding that he was not in the least bit shy about asking every expert he came across for advice. “We basically took all the best ideas that we came across during our research, and combined them to ensure the most efficient operation possible.

“The Nukor Group played a huge role in the planning and design of the plant. It was refreshing to find a company like them, who were prepared to listen to our ideas and help us plan and design the plant according to what we wanted.”

According to Ralf, the construction of the sawmill was a major investment for the company. “We probably spent a bit more money than was necessary, but our aim was on quality, and to get that right, you have to ensure that every component in the operation is as good as it can be to achieve optimal output.

“We are here to stay and that was front of mind during the planning and designing of the plant. We built something here that will stand the test of time and be productive for years to come.”

In the relatively short time since the establishment of the plant, the company has managed to prove itself in the very competitive sawmilling industry, providing top quality timber for the furniture manufacturing industry, mouldings industry, as well as for laminated timber beams.

“We did not set out to achieve volume,” says Ralf. “Our goal was always to provide a superior quality product, with a big focus on cutting accuracy.”
According to Nukor technical sales representative, Peet van Staden, the main factor contributing to the success of Iswepe Timber, in terms of the superior quality and cutting accuracy that they are able to achieve – over and above the magnificent Brazilian Mill line supplied and installed by Nukor – is the fact that Iswepe Timber religiously adheres to a very strict upkeep and maintenance schedule.

"Iswepe Timber adopted an approach that is focused on preventative maintenance from the word go," says Van Staden. "This ensures that the machines are all kept in excellent condition and therefore they will produce top notch results."

**Waste management**

Any sawmill operator will tell you that waste management at a sawmill is an essential part of the day to day operation. How waste is managed can contribute to the downfall or the success of a sawmill, especially since waste equates to nearly 50% of the raw product at the end of the day.

The threat of fire is also always front and centre in the mind of a sawmill operator.

Iswepe Timber took extra pains to ensure the efficient handling of their waste. With a catchment system built into every step of the production process, nothing goes to waste.

Bark, chips and sawdust is collected in the catchment system, transported and separated via an automated system, from where the wood chips are sold to particle board manufacturers and the sawdust and bark are used to fire the boiler.

"The old existing boiler was coal burning," says Ralf. "One of the first things we did was to build a new furnace to burn sawdust, thus creating a use for the sawdust and upping the plant’s efficiency significantly." The furnace was designed and installed by GH Kruger.

**Drying and increased capacity**

Iswepe Timber is currently producing at a rate of approximately 1 500 cubes of timber per month.

According to Ralf, the initial learning curve proved to be much less painful than anticipated. "We were very surprised by our production rate and how quickly we managed to hit our production targets, especially since we were quite new to the world of sawmilling.

"We took a huge risk as a new entrant into the market, but we were willing to endure all the stumbling blocks that are to be expected with a new operation. It was quite a daunting task, but we managed to pull it off and we are now producing in line with our current capacity and the level of quality we are achieving is very impressive."

The line capacity is 24 000 cubes output per annum, and we plan to achieve that within the next year, as we are in the process of having an additional kiln installed by TFD, one of the highest regarded kiln designers and manufacturers in the country.

**Saw Shop**

Iswepe Timber, like most other sawmills has its own saw shop where blades are sharpened and maintained. According to Ralf, cutting accuracy is one of the top priorities of Iswepe Timber, and to achieve optimal results, they change sawblades every three hours.
“Our saw shop features a BMS500 sharpener and a BMT300 tooth setter from sawmilling machinery suppliers, Wood-Mizer. The machines are top quality and simple to run, enabling us to make it a one man operation.”

“In keeping with our philosophy of producing only the best products, we have been keeping to a sawing schedule that sees us changing to fresh blades every three hours. Over and above allowing us to achieve the quality that we set out to, it has enabled us to significantly increase tool life.

“The saw shop equipment from Wood-Mizer has enabled us to initiate and maintain a blade maintenance schedule that will ensure the best quality output as well as the optimum longevity of the blades.”

Wood-Mizer BMS500 sharpener
The Santa Catarina-based sawmill manufacturer introduced the Mill range to South Africa in 2009 and the Wood-Mizer range of sharpeners and pneumatic toothsetters proved to be the perfect companions for sawmill operators using Mill sawmilling machinery in South Africa.

The BMS500 sharpener from Wood-Mizer was designed to suit the requirements of bigger sawmills and is equipped with a system for the easy installation and removal of blades. It also features an electronic tooth counter which can be pre-set and will then automatically turn off the sharpening process after the full cycle.

All the functions of the sharpener are controlled from an operator panel and an inspection window and LED lighting completes the picture.

Wood-Mizer BMT300 tooth setter
The BMT300 industrial tooth setter is designed for professional blade sharpening businesses and large sawmill companies as the tooth setting companion to the BMS500 blade sharpener, ensuring superior tooth setting accuracy and perfect consistency.

An electronic control panel displays all parameters and diagnostic tools. The operator simply installs the blade and starts the setter in the mode he wishes to run. When one side of the blade is finished, the blade is inverted and reinstalled in the setter, with the blade pusher moved into the reverse position.

Several different modes and functions allow flexibility with how the setter will operate and the parameters that it will use. After setting the blade, the setter will stop, or will double-check the blade to ensure that the set is exact. Tolerances for minimum and maximum set can be adjusted.
Iswepe Timber: maximum efficiency with Mill Industries and Nukor

Maximum efficiency, a high recovery rate, and a high throughput rate from a relatively simple and extremely sturdy line with low operating costs. This was the brief that sawmilling machinery supplier, Nukor had from Iswepe Timber, and they managed exactly that with a range of machines from Brazilian machine manufacturer, Mill Industries.

According to Nukor technical sales representative, Peet van Staden, the first Mill machines were brought to South Africa in around 2008 and are still running and producing approximately 80 cubic metres of timber per day.

After nine years of continual running, that is quite impressive for a mill that old and it attests to the superior quality of the Mill Industries machines. This was part of the thinking when it was decided to opt for the Mill Industries range for Iswepe Timber.

“The machines are extraordinarily strong and robust, requiring minimal maintenance and offering remarkable mechanical reliability,” says van Staden, adding that, of the approximately 180 Mill machines currently operational in South Africa, around 90 were brought in since Nukor
Sawmilling

took over the Mill Industries agency for South Africa in 2013. The difference with the Iswepe line is that it was designed in such a way as to ensure the maximum possible recovery rate, thus it was decided to begin the line with the First Cut Horizontal saw.

This machine boasts a very wide sharp chain, which provides good stability for the log as it goes through this initial part of the line and ensures a stable opening phase cut.

"By having the initial open face cut absolutely stable, the subsequent process are all ensured of a higher degree of accuracy," says Van Staden."

This machine is also the only one in the Iswepe line that is part of the Mill Industries L Pro range, which allows for logs of up to 650mm diameter to be processed.

Nukor technical sales representative, Peet van Staden, showing off the Mill sawmill line at Iswepe Timber
“At Iswepe, we’ve turned the conventional way of thinking around a bit,” says Van Staden. “Once the log comes out of the First Cut Horizontal saw, it goes through the Twin Band Bloco bandsaw, which removes the sides, leaving a cant and one edge unprocessed.

“This then goes through a six head horizontal resaw before being cut to size and stacked for further processing. The sides of the log that remain goes through the recovery line where they are cut to smaller sizes and stacked separately.”

According to Van Staden, the reason that they chose to design the line in this way, was to ensure maximum recovery and maximum throughput.

“There are a number of advantages to be gained by edging the slabs before resawing.

“The re-saws after the edging process can be adjusted to saw the final fixed width of board, thus these machines can also run faster than they would, sawing un-edged slabs.

Additionally, this allows for much higher accuracy, as they are sawing through a constant width of board, and thus the quality of product being produced has a lower within board sawing variance.”

Van Staden says another benefit of the Mill Industries line is their thin kerf, and thus high strain (3 tonnes per cm²) saws, which provides for much more stability during the cutting process, and thus optimal cutting accuracy, which was another focus of the client.
TIMBER PROCESSING CONFERENCE
2017

14 INTERNATIONAL SPEAKERS
25 - 27 OCTOBER 2017

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Randpark, Johannesburg

GPS Co-ordinates
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Presented by the
NUKOR GROUP of companies
**Conference program**

**Wednesday, 25 October 2017**

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**Thursday, 26 October 2017**

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**Friday, 27 October 2017**

**Nukor Golf day**

*Nukor Sales and Customers*

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**OUR EXPERIENCE, YOUR ADVANTAGE**
Ireland’s Murray Timber Group invests in KARA bio-energy system

The Murray Timber Group (MTG’s) BES Bollmann kilns are now heated by a KARA bio-energy installation, and the mill owners say this is combining sustainability, independence and cost-efficiency in relation to its core business.

MTG is a family-run business established in 1977 and has grown to become one of the largest, most progressive, and flexible sawmills in Ireland. Its operations are spread across two production facilities in Ballygar in County Galway, and Ballon in County Carlow. It produces garden decking, pallet and packaging, timber fencing, pressure treated timber and construction timber.

With world class processing facilities capable of processing more than one million cubic metres of logs annually, MTG is presently harvesting, transporting, and processing over 500,000 cubic metres of timber a year. This additional capacity assists it to ensure that forest owners always get the best price for their timber.

The company’s plants are ideally located to meet domestic and export demand. All its construction timber is kiln-dried and graded in accordance with the highest standards to ensure adherence to specified moisture content regulations. Timber is then planed, shaped, and graded to meet customer requirements.

The need
MTG’s objective is to satisfy its customers by delivering high quality wood products at competitive prices. To achieve this the company decided to optimise the energy use of its BES Bollmann kilns by utilising the waste wood from its sawmills to heat the kilns. This effectively makes MTG independent of fossil fuels and lets it focus on driving down its running costs.

The solution
Sawmills like MTG produce different types of waste that can be used as a fuel for the combustion in a bio-energy installation. However, all the bark, wood chips, sawdust and wood shavings have one thing in common; they have a high moisture content of up to 58%.

The biomass generated during the production process is transported and stored in an intermediate bunker and is automatically fed into the combustion chamber. This process is unique because the biomass is first directed across a star screen and then towards the walking floor and combustion chamber via a bucket elevator.
The star screen separates the pieces of waste wood that are more than 30cm in size and directs them to a shredder where they are reprocessed. At MTG the combustion of the wet biomass has a high percentage of scrapings, ashes and sand, and a hydraulic angled grid is used.

To dispose of the fumes and guarantee minimum emissions, a multi-cyclone filter cleans the exhaust gas so that the company can meet Ireland’s strict environmental standards.

The results
The advantages of the Kara bio-energy solution include:
• The ability to burn extremely moist biomass
• It generates hot water at 110°C to heat the 12 kilns at the plant
• Only one or two controlled stops are needed per annum
• It helps MTG reduce its dependence on fossil fuels, both in terms of availability and energy costs
A lrode-based combustion and boiler specialists Dryden Combustion has stood at the forefront of the energy generation industry in South Africa since 1951, and their interest and sound experience, as well as their spotless track record, has made them the go-to company in South Africa for the timber industry, when it comes to energy generation.

The company also outsources affordable steam to numerous of their clients and their innovative approach to finding viable solutions to their clients’ needs has made them market leaders in terms of efficiency and reliability. Their unique and innovative automated systems allow their clients to achieve:

- Steam pressure control – Experience a stable steam supply under varying operating load conditions.
- Boiler efficiency – Boiler efficiency is primarily driven by control of excess air (air-fuel ratio). Using frequency inverters and electronic fuel trim control, fuel usage is reduced. The reduction in usage is typically between 8% and 15% when compared to electro-mechanical or manual control systems.
- Boiler preservation – Motors run much slower with gentle start-up and shutdown, thus reducing the need for maintenance and increasing the economic life expectancy of the motor.
- Reduced environmental impact – The mere fact that less fuel is burnt and less electricity is used, reduces harmful emissions into the atmosphere. Furthermore, proper excess air control minimises the release of NOx and CO emissions into the atmosphere.
- Elimination of human Intervention – Decision making becomes the function of a programmed steam production process. Responses to changes in steaming conditions are immediate and consistent. The human factor in boiler operation is reduced significantly.

According to Dryden CEO Jonathan Probert, Dryden’s advanced monitoring system, is tailored specifically around the needs of the client and allows remote monitoring of this critical part of the operation.

“This allows the user to remotely keep an eye on basic operational data and information, and allows for parameter trending, event logging, information analysis and diagnostic, as well as the assessment of recorded deviations.

“This will keep the boiler running at the highest efficiency, and may even identify imminent boiler failures in advance.”

In addition, this very effective support tool will keep call-out charges to a minimum by enabling engineers to do remote diagnostics in the event support is required. In conjunction with monthly performance reporting you will have peace of mind that your boiler is operating at peak efficiency.

Some of the performance parameters reported on are:

- Steam Pressure
- Combustion Efficiency
- System efficiency
- Feed Water Temperature
- Stack Temperature
- Sootblow tracking
- Steam-to-Fuel Ratio
- Boiler Load
- De-ashing tracking
- Oxygen levels
- Fuel usage
- Mobreys tested

Dryden Combustion has supplied many boilers into the Sawmill Industry, most recently to Bracken Timbers and Patula Products in KZN.

Patula Products have also entrusted Dryden Combustion with the supply of the highly efficient Optiflame control system, which will be supplied, installed and commissioned soon.

“Dryden Combustion prides itself in being able to supply cost effective, quality, reliable solutions to the steam industry, of which the timber sector is a significant part,” concludes Probert.
SPECIALISTS IN THE STEAM BOILER INDUSTRY

- Supply new and used industrial steam boilers
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Two new 10000 kg/hr 1800kPa coal fire boilers recently installed by Dryden Combustion

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- Can identify imminent boiler failures in advance
- Able to capture operational data

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Sawmilling

S
outh Africa is a fire-prone region and the 2015 and 2017 fires in the Western Cape demonstrate that no matter how much effort policy makers, urban and rural planners and business owners put into mitigation strategies, these are based on the belief that safety is achievable. While tactically sound, such strategies do little to address the underlying climatic, social, and economic drivers of wildfire risk.

No matter the results of the forensic and insurance investigations of the fires, the reality for plantation owners, sawmillers, pole treatment plants, and consumers is how much of the burnt resources can be recovered.

In 2015, after the fires in the Cape Peninsula and surrounds, wood scientist, Prof Martina Meincken of the Department of Forest and Wood Science at Stellenbosch University addressed the issue of the use of burnt trees at a symposium on silviculture and the management of dryland forests. The following extract is available on the Sawmilling South Africa website, http://www.timber.co.za/news/article/use-burnt-trees-according-to-their-potential-says-wood-scientist

Prof Meincken said that from an economic and safety viewpoint it makes sense to first determine the degree to which wood has been degraded during a plantation fire, before deciding what to do with it. While not all pine trees that have survived such wildfires should still be used to make roof trusses, they could be used to make furniture, flooring, fencing, pulp or as fire wood.

Her research group conducted a series of experiments testing the maximum temperature that South African pine wood can take before it deteriorates and is no longer usable. Her research team is developing a non-destructive method with which to determine the temperatures to which wood was exposed during a wildfire. It can be used to decide on the end use of such wood. The National Research Foundation of South Africa is funding the project.

She said the local sawmill industry follows one of two strategies when it comes to handling trees from plantations that endured a forest fire. Either none of the trees are used, which comes at a huge economic loss, or they are treated as normal wood.

"With the latter, there’s always the chance that you might end up with several problems due to changes
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Research done by one of her students, Dr Benedict Odhiambo, showed that a tree’s bark is its best protection against heat and fire damage. The thicker the bark, and the more fissures or narrow cracks on it, the better its heat resistance and ability to protect the concealed wood.

"However, when the bark is exposed to a very hot fire for long enough, the wood behind the bark will inevitably be exposed to elevated temperatures and start to degrade," Prof Meincken explains.

Little is known about the exact temperature at which changes to wood start to occur, and whether all tree species react the same. Consequently, Prof Meincken’s team set about testing pine wood burnt at temperatures ranging between 150 and 350 degrees Celsius. This is typical of what is experienced during a forest fire. To better understand how heat affects the wood, it was viewed in detail using solid state Nuclear Magnetic Resonance (NMR) spectroscopy and computed tomography (CT) scanning.

The results clearly show that burnt pine wood, even if only mildly damaged, behaves differently from "normal" wood and should therefore be processed in another way. This decline becomes especially significant at temperatures above 250 degrees Celsius. It becomes weaker and can break more easily when a load or pressure is applied to it. Also, the density of the wood and the thickness of the cell walls decrease along with increased temperatures.

Moisture content also comes into play in building matters, as wood that has not dried out correctly could shrink and cause deformation of the structures in which it is used. Therefore, Prof Meincken’s team also conducted relevant experiments to see how the moisture content of pine wood changed after being exposed to high temperatures. When dried using a typical drying schedule of a saw mill, it was found to have a higher final moisture content than is usual after such treatment. Moisture content also varied much more within the samples than was the case with normal wood.

"This might be because the wood has already been partially and irreversibly pre-dried during the fire, which caused structural changes to the cell wall of the wood fibres," she says.

"The maximum temperature that a tree can tolerate before changes in its wood takes place will most likely differ from species to species," believes Prof Meincken.

"We need to do more research to find out what this 'cut-off' point is for other tree species of economic value, so that we can know whether burnt wood could still be used as normal wood, if it should be processed in a different way, or not as structural wood," she emphasises.

10,000+ FSC Chain of Custody certificates in Asia Pacific region

The number of Forestry Stewardship Council (FSC) Chain of Custody (CoC) certifications in the Asia Pacific region has reached a record high number of 10,077, making it the second largest number of FSC CoC certificates, after Europe’s 17,264.

Over the last five years the number of CoC certificates has increased by 82%, with an average year-on-year growth of 13%. It has outpaced the region’s economic growth over the same period, which was between 5.3 and 5.7%.

The country that has the highest net increase in the number of CoC certificates is China. The 3,032 certificates gained accounted for 67% of the total increase in certificates in the Asia Pacific region. Vietnam comes second followed by Hong Kong, India and Japan. The top three product types that see the highest increase in CoC certificates are paperboard / packaging, paper, and furniture, which China had a staggering growth of 224%, 182% and 179% in these three categories respectively.

Adam Beaumont, the interim director of FSC in Asia Pacific region, says the increasing awareness of corporate social responsibility benefits the robust growth in certification; "Over the past five years, we’ve seen an increasing number of brand owners and large national and multi-national businesses include responsible sourcing of forest products in their procurement policy.

FSC certification has become a must-have ‘ticket’ for manufacturers looking to join the unbroken supply chains that can produce FSC labelled products."
Horizontal finger joint systems

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The terms energy efficiency and energy conservation both contribute to the sustainability of a business, but they have different meanings. Energy conservation means to save or use less energy by minimising or cutting back on energy usage, while energy efficiency implies doing the same tasks or functions as before, but with less energy.

When applied to construction, there are several materials and technologies available to render a project more energy efficient and sustainable. While there is a place for all types of construction materials, timber has many properties that make it kinder to the environment, not just during its useful life, but across its entire lifecycle. Werner Slabbert of Rustic Homes says this means it is important to pay attention to where the timber comes from, and how it was grown, processed, treated, stored, and transported before it reaches the construction site. All the energy that produced the timber, from seed to site, is known as embodied energy, which is a significant determinant in how sustainable a structure is. “We also need to think about what happens to timber after its useful life,” he advises.

“Construction timber is unique as during its ‘manufacturing process’, it takes up carbon dioxide from the atmosphere, stores the carbon molecules for energy and releases oxygen in a process known as photosynthesis. Since wood is grown and is not a finite resource, like oil for example, timber remains the only truly renewable building material available,” says Slabbert.

Timber is arguably the only building material that starts out having removed carbon from the atmosphere before its working life. It has a head start on mitigating the activities that will later make up its embodied energy by the time it gets to site, and the potential to contribute to a structure with an effective zero nett carbon footprint.

“Timber as a construction material also adds value from the very start of its journey. Not only does it fix carbon from the atmosphere as it grows, it supports employment in the forestry sector, it is lighter than other ‘traditional’ building materials and therefore more energy efficient and less costly to transport,” he says.

Jacques Cronje of Jacques Cronje Timber Design, says the more typical issues that impact on a construction's energy efficiency include the structure’s orientation, window size and positioning, shading, material choices with consideration for thermal and insulating properties, solar heating, natural cooling and considerations for natural light. The regulations take the performance of all aspects of a build into account, including walls, roofs, water heating and lighting, in line with requirements for climatic zones in South Africa.

“Timber frame homes are included in the South African National Building Regulations standards in SANS 10082: Timber Buildings. When built to these standards, they also automatically achieve the standard required for registration with the National Home Builders Registration Council (NHBRC) and are easily designed to meet the requirements of the recent energy efficiency regulations,” says Cronje.

Laws in South Africa regarding both energy usage and energy efficiency in buildings were promulgated in 2011. These apply not to the embodied energy of a given structure, but rather to the performance of the structure in how it consumes energy during its working life. Both SANS 204: Energy Efficiency in Buildings and SANS 10400 section XA: Energy Usage in Buildings, set out clear guidelines for the architect and builder on how to provide for an allowable level of energy usage of a structure through design and compliance with deemed-to-satisfy requirements outlined by the National Building Regulations.
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Architects and building contractors must know the law

The structural integrity of a building is only as good as the professional team involved in its design, construction, raw materials supplies and the construction workers who build and erect the structure.

It has come to the attention of the Institute for Timber Construction South Africa (ITC-SA) that the roofs of a large percentage of buildings do not comply with the law. A factor contributing to this phenomenon is a measure of ignorance in the industry around the responsibilities associated with each function in the building process.

According to the ITC-SA there are misconceptions held among some professional practitioners and contractors in the built environment about the scope of their involvement in ensuring that the conditions of the regulations are met. The municipal building control offices rely on the knowledge and integrity of the professional team responsible for designing, overseeing and final inspection of the roof structures to ensure conformance to the regulations, when issuing certificates of compliance.

To address this controversial issue, the ITC-SA, with the assistance of the South African Local Government Association (SALGA) recently hosted a workshop to explain the roles and responsibilities of professional practitioners in the built environment when it comes to implementing SANS 10400 Part L Roofs and SANS 10243: Manufacture and erection of timber trusses. Other regulations that were discussed included:

- SANS 10163: Structural use of timber
- SANS 1783 sections 1 and 2: Sawn softwood timber, and
- SANS 10005: The preservative treatment of timber

The speakers included:

- Gavin Brown of ITC-SA: Site-made trusses versus prefabricated trusses (the LEGAL way)
- Abe Stears of South African Timber Auditing Services (SATAS): Certification of structural timber - What does it mean?
- Bruce Breedt of the SA Wood Preservers Association (SAWPA): Timber treatment, standards and regulations
- Werner Slabbert (Jnr) of ITC-SA: Timber frame housing
- Thihangwi Madau of the National Home Builders Registration Council (NHBRC)
- Favourite Khanya of SALGA
TIMBER ROOF TRUSSES: HOW WELL DO YOU KNOW THE LAW?

Pre-fabricated timber roof trusses shall at all times be in accordance with the rational design requirements given by the Engineer and in accordance with the National Building Regulations - SANS 10400 Part L with reference to:

- SANS 10243 T
- SANS 10163
- SANS 1793 Parts 1 & 2

To confirm compliance, an engineering certificate will be required on completion of any roof structure.

GOOD PRACTICE FOR ARCHITECTS
The architect’s role is to inform the owner regarding efficient vs. impractical design.

EFFICIENT:
- Steep pitch
- Simple shape
- No trees overhanging
- Easy to maintain

IMPRactical:
- Flat Pitch (with parapet)
- Lots of hips and valleys

TYPICAL PROBLEMS LEADING TO ROOF FAILURES:
- Wrong supports
- Solar geysers / panels not designed for
- Lack of specified bracing
- Tiles added later to sheated roof (6x the load)
- No bolts in deemed-to-satisfy trusses
- No engineer involvement
- Elements removed by plumbers / electricians / owners
- Poor erection by unqualified or poorly trained ‘carpenters’ with little supervision:
  - Out of plumb
  - Omitted bracing
  - Internal walls used where not designed for

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Portable sawmills are ideal for processing burnt timber

Michael Harris, director of Harris Sawing Equipment, says a Peterson Portable Sawmill is the ideal choice for processing burnt timber because Peterson have a range of sawmills that can be set up in any location, meaning that you don’t need to cart your burned trees to a fixed mill site.

With a range of power options and blade sizes, the Peterson sawmill can be tailored to the needs of the farmer, or those affected, giving the best value for money. Peterson blades can be sharpened directly on the mill in under five minutes, and when dealing with sooty, damaged tree bark, this is a major benefit.

Peterson is a New Zealand-based family run operation, and CEO Kerris Browne and her husband Chris feel for those affected by forest fires. “We can’t imagine what it would be like to have to rebuild our lives from scratch, but we’d like to help victims of forest fires do just that.”

“After a tragedy like this, comes reality; waking up in the morning and envisioning the long road ahead.

A portable sawmill can help you more than you’d think. It can help with salvaging charred trees, create employment opportunities and rebuild communities.”

Peterson Portable Sawmills are the original designer of the commercial swing blade sawmill for portable applications and have been refining their design for more than 30 years. Their products include full milling packages for a range of uses from part-time milling to productive commercial operations. Harris Sawmill Equipment is the local supplier of Peterson products.
Finding the timbre in timber

The Working with Wood Show is once again being hosted by the Nelson Mandela University (NMU) George Campus (Saasveld) over the long weekend of 22 – 25 September.

Collaborators include the Association of Woodturners of South Africa (AWSA), the School of Natural Resource Management at NMU and the George Woodworking Association. The Working with Wood Show is well-known for its inclusion of displays, lectures, demonstrations, trade exhibitions, food stalls and ample entertainment for adult timber enthusiasts and their children, a fitting close to Arbour month.

Master luthier (guitar maker), Marc Maingard, the man who “makes trees sing again”, will give a talk in which he shares his passion for timbre and timber. Maingard Guitars is attracting the attention of musical greats such as Earl Klugh and Steven Stills of Crosby, Stills and Nash, amongst others.

Maingard will show some of his instruments in both raw and finished form. His guitars are so unique, using Brazilian Rosewood, that he requires permits to ship some of these rare creations abroad.

“I love what I do. It is not work, it is a passion. I wouldn’t call it play because there are some powerful machines in my workshop which incorrectly handled can be dangerous. I’d rather call what I do focused attention from a joyful place,” says Maingard.

As a songwriter and storyteller, this creative passion flows freely into his custom-made guitars, each of which take at least four to six weeks to create. Rare woods hand-carved and expertly inlaid using pearl, silver, gold and gemstones, as well as the ancient Tibetan technique of coloured sand make for an aesthetic feast.

Maingard says that he has chosen to accept the invitation to speak at the Working with Wood Show as a way to share the love and joy that he has found in being privileged enough to work with such rare woods. He views it as a platform from which he can talk about his passion and what it means to him to be able to support himself by doing what he loves. He is excited to answer the questions of aspirant woodworkers.

Maingard doesn’t intend doing any musical performances, although if it happens organically he may strum a few chords and tell a few stories during his presentation. He hopes that by sharing his wealth of experience in this field, 48 years to be precise, he may inspire a few younger woodworkers to pursue a life work in working with wood.

The AWSA symposium, with the theme, Recovering From Failure runs concurrently with the Working with Wood Show.
Space-saving saw serves diverse customer needs

For businesses that cut a lot of board products, a panel saw is a necessity, and a vertical panel saw is increasingly becoming a popular choice since it takes up minimal floor space and has ergonomic loading advantages.

Two companies in Cape Town, Chapmans Hardware and Building Supplies in Noordhoek, and Green Pod Homes in Ottery, have each selected the Striebig Compact 114207 vertical panel saw as their machine of choice. The business owners did their homework and settled on the Striebig saw, which was supplied by Striebig’s principal agent in South Africa, Austro.

Chapmans Hardware and Building Supplies is owned by Andrew McAughey, and Green Pod Homes by Tracey Dollman. Their businesses are very different, as McAughey offers a board cutting service and Dollman designs, factory builds and assembles modular homes, as a complete unit, on-site.

The Striebig Compact is designed to meet the needs of users who require a vertical panel saw for all their sizing cuts. Chris Hugo of Austro Cape explains that a Compact will cut perfect edges on particle board, acrylics, composites, plastic, and non-ferrous metal panels to an accuracy of 1/10 mm. “It is thus the ideal machine for workshops that need or may in the future need the option of cutting materials other than board products.

The Swiss-made saw range copes with panel sizes from 3100 x 1644mm (model 4164) to 5350 x 2200mm (model 6220) and thanks to its rigid, self-supporting, heavily braced saw frame, it guarantees 1/10mm accuracy with every cut. Hugo says that true to its name, the Compact’s smallest model, the 4164, measures 4,256 x 2,400mm and only needs half the space of a horizontal cutting centre for handling the same panel size, making it the ideal choice for small to medium size workshops.

McAughey and Dollman both emphasise four notable features of their vertical panel saw over a traditional sliding table saw: operator safety, its space-saving footprint, the consistency of, and the quality of the cuts.

Hugo explains that Striebig saws are constructed with a fully welded, heavy-duty frame that stays square over time. The precision rollers that make material handling easy do not collect dust or chips that can set a panel out of square. From a safety point of view, the Striebig’s blade is continually covered and prevents fingers moving past the blade when it is in use, unlike the exposed saw blade that sticks up through the table of a sliding table saw.

Hugo says additional noteworthy features of the Compact includes:

- Heavy-duty support rollers with integral panel stop
- Full-length mid-shelf with adjustable spacing for aluminium fingers and built-in wood small parts support area
- Highly efficient dust extraction system with reinforced hose
- Reinforced hose makes it easy for short operators to perform full board plunge cuts
- Specially designed measuring flip stop for use with small parts
- Template bar that accepts optional stops for common rip cuts
Andrew McAughey, owner of the independent Chapmans Hardware and Building Supplies in Noordhoek, recently bought a Striebig vertical panel saw to replace the two sliding table saws that had occupied a 50 square metres workshop.

"Although I have dealt with Austro for many years, when I decided to invest in a vertical panel saw I did not want a second hand or refurbished machine and contacted the woodworking machinery suppliers I know in Cape Town. My research brought me back to Austro and Chris Hugo because it became clear that the decision to buy a Striebig wall saw was a 'no brainer'," comments McAughey.

"We have found the Striebig Compact 4207 machine to be about four times faster than the sliding table saws we had and it produces cut components that are 100 percent more accurate and square." The machine was supplied and installed by Austro’s Cape branch, which is also responsible for supplying and maintaining the Leitz saw blades that are used on the machine.

Happy machine operator
Chapmans’ Striebig saw operator, Mzuvukile (David) Gqozo, says he is proud of the work he is now producing. "It is much better than a traditional panel saw because I don’t have to worry about cutting my fingers and I don’t have to bend, lift and push heavy boards around. The machine is easier and quicker to set and operate and there are no complaints about quality from our customers."

The sawblade is enclosed and, unlike sliding table saws, the machine cannot operate if the blade guard is removed. The efficient extraction system keeps the saw motor free of debris and dust, and Hugo explains that this ensures that the blades last longer. The machine is versatile and is used by Chapmans to cut a variety of board types and solid wood. "We don’t need a scorer unit because the machine cuts melamine coated boards with little or no damage to the cut edge," says Gqozo.

McAughey explains that the Striebig and its board cutting service adds value to the core business of the company, which is the hardware and building supplies side. Chapmans Hardware started out as a Timber City on First Avenue, Fish Hoek. During the 1980s it relocated to its current premises in Sunnysdale, Noordhoek and the previous owner made the name change to Chapmans Hardware in the 1990s. McAughey bought the business in 2000 and took over most of processing machines. This resulted in two sliding table panel saws occupying 50 square metres of floor space with little room to spare.

Business is growing
The business is growing and is particularly busy in December and January when the building companies close for the Christmas break. "That is when holidaymakers finally get the chance to tackle the odd-jobs and repairs they have been putting off during the year, and their first stop is their local hardware store," McAughey, says with a smile.

"The primary reason for buying a vertical panel saw was the amount of space it frees up. We can now continue with the revamp of our warehouse retail space to enhance the shopping experience for our customers. With the Striebig occupying less than a quarter of the space, we can consolidate the boards and wood related products under a single separate roof."

When the shopping centre was revamped a few years ago, McAughey also gave the hardware division a facelift and made a strategic decision to join the EST Building group. The focus of the group is on sharing knowledge and margins with members, thereby enabling them to grow a national footprint. It negotiates favourable trading terms packages with preferred suppliers.

McAughey says the advantage of being part of EST, is that the relationship enables him to enjoy personal freedom in terms of how the business trades. "At the same time we benefit from a voluntary buying group that gives muscle to small and large independent retailers in a market that is increasingly being dominated by major chains. It is a voluntary association of member shareholders, that improves the trading term packages that suppliers allocate to independent traders."

Chapmans Hardware and Building Supplies opts for Striebig

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It is not easy to make improvements to a bestselling range of machines, however customers worldwide agree that Striebig has done so with the launch of two new versions and models of its Standard vertical panel saw.

Striebig, the wall saw manufacturer of 50-years standing, is the sole supplier of vertical panel saws to South Africa’s woodworking machinery specialist, Austro. Trevor Williams, Austro’s chief operations officer says the new Standard S-TRK1 and the Standard S-TRK2 are excellent machines and both are available with an enhanced Comfort package.

The Standard S-TRK1 has a full-surface wooden support wall, and the TRK2 has an aluminum support frame. The optional Comfort package, with a range of basic and advanced equipment, increases the range of applications for the Standard S.

"Manufactured in Switzerland by some of the best engineers and machinery builders in the world, Striebig’s advantage is that it is a dedicated designer and manufacturer of vertical panel saws," explains Williams.

"We encourage shopfitters, board suppliers, and cupboard manufacturing companies with limited factory floor space to visit their nearest Austro branch or to contact us to discuss and experience the advantages of a vertical panel saw over a horizontal table saw."
Green Pod Homes was founded by Tracey Dollman in 2016 to create customised and modular “GreenPods” homes that are built in modules or complete units in the factory and transported to their new locations, where they are assembled on prepared foundations.

Dollman is excited about the growth in popularity of her products. She describes the pods as the perfect option for a home, holiday house, granny cottage, modular school building, mobile classrooms, meeting rooms, security offices, therapy rooms, guest cottages, office, gym, art or writing studio, and even A-frame wooden ‘tents’ for game farms. The walls are prepared with plumbing and electrical connections, and tested before they leave for site, even the interior and exterior walls are painted or cladded according to the customer’s wishes and budget.

“When I started the business I sub-contracted to a company that has now closed their doors,” she explains. “This was a major turning point and I took the plunge to start my own production company and now employ 30 people.” From the beginning Dollman has focussed on producing homes of the highest standard in the shortest possible time.

Clients appreciate quality
“Clients appreciate our quality, and we have been approached to export our products and business concept to neighbouring countries. We decided to purchase purpose-built and optimised machinery to increase our production speed and accuracy. Our research led us to decide to buy the new Striebig Compact 4207 vertical panel saw from Austro. We love the precision of the machine and Austro’s back up, personalised service and on-the-job training.”

Dollman says the Striebig Compact has had a profound impact on her production. “The quality and accuracy of the cut components is excellent. The machine operators were hesitant at first because they were used to working with the table saw, however Austro trained and coached them on-the-job and they now enjoy working with the space-saving vertical machine. There are no come backs from the assembly teams, because of the perfectly square cuts.”

We love Austro’s service
The accuracy and ease of use of the Striebig is helping GreenPods to reduce waste, because the blades supplied and maintained by Austro produce quality cuts with minimum given tolerances. Dollman says the design department can now concentrate on ensuring that the pre-designed pod houses are manufactured with the least raw materials.

“We custom, build our own kitchens and built-in-cupboards. We have now also started producing our own variety of modular light fittings as well as furniture, and will soon be introducing our own range of aluminium windows and doors.

“I feel strongly about developing and training our people and promoting from within. We have introduced our own training programmes, which all our staff attend. Various wood and power tool suppliers, and Austro assist with demonstrations and staff training. Our production space is fully booked till December and we are planning to further expand our production capacity to keep up with the demand.”
DTI and SAFI urge furniture industry to “strike while the iron is hot”

Speaking at an information sharing session organised by the South African Furniture Initiative (SAFI), Lionel Archillies, of the Department of Trade and Industry (DTI) Strategic Partnerships and Customer Care Unit in Cape Town urged companies to take advantage of the DTI’s incentives and support schemes.

Enterprise and supplier development
There is much talk about industrialising the economy, and the DTI has dusted off its strategic partnership programme and is urging large public-private sector supply chain players to support and develop small and medium enterprises (SMEs).

The objective is to support its policy of broad-based black economic empowerment (BBB-EE) to strengthen the element of enterprise and supplier development (ESD). On the table is a cost-sharing grant capped at a maximum of R15-million towards the total qualifying costs, based on the number of qualifying suppliers to be supported. The grant is based on a cost sharing support of 50:50 towards manufacturing projects and 70:30 towards non-manufacturing projects.

An applicant must be a taxpayer in good standing with a valid tax clearance certificate, be BBB-EE compliant and the SMEs must be legally registered entities in the manufacturing, agro-processing (including furniture manufacturers) and related services industries. The applicant must commit to supplier development and provide market access plans or off-take agreements. 60% Of the total SMEs supported must be 51% owned by black South Africans who should have management control over the business.

Qualifying costs include machinery, equipment, and tools; Infrastructure linked to the strategic partner’s supplier development initiative; information and communication technology; and operational improvement costs.

Agro-processing support scheme
The DTI’s agro-processing support scheme includes furniture manufacturing and fibre processing, and offers cost-sharing for investment in new or expanded projects that protect or create jobs. The objective is to increase capacity in these sectors, create employment, improve productivity and competitiveness, modernise machinery and equipment and to ensure transformation.

R1-billion is set aside in the current fiscal year to fund the scheme. It offers a 20% - 30% cost-sharing grant, up to a maximum of R20-million, over a two-year investment period. The minimum qualifying investment value is R1-million.

Conditions for qualifying include that the applicant must:

- Undertake an investment project resulting in retaining and creating direct employment
- Demonstrate that at least 50% of the inputs (raw materials) will be sourced from South African suppliers and that at least 30% of the inputs will be sourced from black South African suppliers
- Adhere to sectoral minimum wage and legislative requirements government the industry
- Be at least a Level 4 BBB-EE.

Questioned on this last point, Archillies said “We want to see commitment. If you are not at a minimum of a Level 4 then you must include a strategic plan in your application of how you intend to attain this level. Where inputs cannot be sourced locally and from black suppliers, applicants must provide a motivation. We have a growing list of machines and materials that are not available locally, so this should not be a deterrent at this stage.”

The agro-processing support scheme can be used for:

- New machinery and equipment: owned or capitalised financial lease. This includes green technology, energy, and resource efficiency equipment
- New commercial vehicles: owned or capitalised financial lease. It must be a work-related vehicle used for collection, delivery and distribution only. It cannot be used as staff transport vehicle. It must be registered in the name of the applicant and cannot exceed 25% of the qualifying investment in machinery and equipment. Limited to R2-million.
- Buildings: May not exceed the investment of machinery, equipment and tools up to R2-million
- Competitiveness improvement costs: Up to 10% of the qualifying investment in machinery and equipment and limited to R2-million

Unfortunately, the history of grants of this nature is that it is first come first served, and that the purse gets lighter and the strings tighter very quickly. Bernadette Isaacs of SAFI and Archillies urge companies to “strike while the iron is hot”.

Woodworking
Wood enthusiast Archie F. Wilson assembled the largest private wood collection in the United States in the 1940s and 50s. Now that collection, consisting of 4,637 wood samples, is being used to combat illegal wood trading around the world.

"Reliable wood identification is one of the fundamental challenges facing efforts to control illegal logging and associated trade," says Charles Barber, director of the World Resource Institute’s Forest Legality Initiative. "If we don’t have basic information about species and geographical origin of suspected wood, it is difficult to detect, prevent or prosecute illegal loggers and traders."

On display at the Smithsonian National Museum of Natural History in Washington DC, the collection, used alongside new technology, will provide a powerful tool for customs agents, law enforcement, the judiciary, lawmakers and others grappling with the environmental, cultural and economic devastation caused by illegal logging and trade, says the Smithsonian.

The technology, called DART-TOFMS (Direct-analysis in real-time Time-of-flight mass spectrometry), applies a stream of heated helium ions onto the sample and quickly provides a full chemical profile. The person testing the wood simply has to hold a tiny sliver of wood in front of the ion beam to generate an analysis. It’s non-invasive, requires very little preparation and works nearly instantaneously if the sample in question is included in the database, says the Smithsonian.

"Illegal logging and associated trade is a cause of forest degradation, and is often a catalyst for complete conversion of forests to agriculture or degraded wasteland," Barber says. "It also robs communities and governments of revenue, breeds and feeds corruption, and is increasingly linked to transnational criminal networks and trafficking in wildlife and arms, with a growing online presence."

The World Wildlife Fund says illegal logging accounts for between 15 and 30 percent of all globally-traded wood. Up to 61 percent of all timber production in Indonesia is traded illegally, says the Fund, and 25 percent in Russia.
The Knysna Timber Festival 2017
will go ahead as planned
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www.timberfestival.co.za

We are pleased to announce the commissioning of the first 6 foot wide high gloss production line

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To learn more about Malaysian timbers and timber products, and the Council’s 2017 events and programmes, please visit [www.mtc.com.my](http://www.mtc.com.my)
Imagine a flatbed CNC machine that can router three or more boards at a time and then shape all the components on its integrated band saw. Sounds impossible but this is exactly what the Bacci MasterCut does, and with a footprint the same as a traditional CNC machine.

Grafton Everest in Canelands, Durban, is known for its ever-expanding ranges of high quality lounge suites. The company is no newcomer to CNC and nesting technologies and has a machine shop filled with an assortment of old and new comers. The need for increased capacity to meet growing and diverse markets resulted in a search for a solution that is flexible and can meet the company’s needs.

Heath Mirtle, manufacturing executive for the Bravo Group Lounge Division, explains how his research started in 2011 at the Ligna woodworking show in Germany. He saw the Bacci MasterCut and this began his conversations with Trevor Williams, chief operating officer of Austro, which is the agency for Bacci in South Africa.

“We were looking for the ability to increase speed and cycle times and optimise the raw materials to cut down on waste. I saw these machines at Ligna four years ago and knew that it was exactly what we needed. But, like a typical furniture manufacturer, I was torn between taking the “safe” route and buying three traditional CNC machines, or to leap into modern production processes,” says Mirtle.

“It took four years of intense work with Trevor and Bacci for me to make the decision,” Mirtle explains. “Our initial concerns were whether we would get good support from Bacci and Austro and whether the software would be user friendly for our designers and programmers.”

Williams and Mirtle quip that it was a long sale process and agree that they both learnt through the experience. Brett Redman, Grafton’s plant manager, went with Williams to Turkey to visit a company using several of the machines and sent examples of Grafton’s programmes to Bacci to ensure that the machine would meet their needs.

Williams describes how the typically laborious way of making upholstered furniture frames includes drawing up cutting lists that optimise the board, cutting the boards on a panel saw, using templates to outline the shapes, cutting the parts on a bandsaw, drilling, and routing the components and then tidying the edges. Mirtle says nesting machines are a huge improvement, however Grafton finds these to be a constraint because each machine can only process one board at a time.

The MasterCut’s band saw component is an evolutionary step up from the usual bandsaws. It has a narrow band with a thin kerf and the innovation lies in the way that it effortlessly changes angles and direction and slices through the boards that have been prepared by the flatbed router.

Depending on the thickness of the boards, between three and up to six can be loaded onto the bed of the machine. These are firmly clamped in place by the working table, and the programmed routing and drilling head begins its three axes cycle. No matter how complicated the size and shape of the furniture components the machine quickly and efficiently does the work. On the same plane, the bed of the machine then moves the components to the band saw and moves it through two axes while the bandsaw blade changes direction to produce components with clean cuts and radiuses, and minimum waste.

“Austro makes good decisions when they choose their principals, and understand the needs of their customers,” says Mirtle. Brian Downs, director of Austro’s Durban branch, says Bacci’s technical engineers are committed to ensuring that their customers experience as little downtime as possible.

“When Vincenzo Dell’Erario, the Bacci technician, stepped off the plane in Durban he demanded to be taken to Grafton Everest immediately.” Redman agrees and says Dell’Erario was at the factory until 9pm every night to ensure that the commissioning process went smoothly and that Grafton’s technical staff know the ins and outs of the machine.

First of its kind in Africa, the Bacci MasterCut is installed at Grafton Everest
The CNC MASTER.CUT machining center combines the advantages of band saw with the flexibility guaranteed by lastest generation of CNC 3-axes routers. This machining center may be equipped with multiple head boring units.

The operating fields of the two units (saw+router) are completely super-imposable, to allow machining and cutting of the entire panel or multiple stacked panels.
The Bacci MasterCut, supplied by Austro, is the next step in the evolution of lounge suite production.

Some 20 years ago CNC nesting machines brought about a revolution in the production of lounge suites by combining all operations, that is boring and shaping. Typically, the internal chipboard or plywood parts would need to undergo the following processes:

1. Breakout from original board size
2. Nailing two or more boards together
3. Marking out the shaped part for cutting
4. Cutting the parts with a band saw
5. Boring the parts
6. Spindle moulding the accurate edges when required
7. Taking the nailed panels apart

Each of these steps require handling, and the parts were never quite the same.

With the event of the nested-based CNC router, it became a one stop operation, however, this also had a few drawbacks, such as:

1. Machining with expensive router bits
2. Limited production volume because only one or two sheets can be processed at a time
3. Limit as to how small the parts can be cut due to the danger of movement, as a vacuum hold-down system is used. In most cases the boards are not cut all the way through, which means an additional step of part clean-up is required.
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The MasterCut

The MasterCut allows manufacturers to have the best of both worlds, with speed, efficiency, and accuracy, combined with lower tooling costs and multiple panel processing.

The panels, up to four high, are held by an automated clamping system that moves out of the way of the router and band saw. The router is there for two functions:

1. To pocket holes to allow the band saw blade to turn 90°
2. To work parts of the programme where the radius is too tight for the band saw

This combination results in a machine that - depending on the cutting patterns - has the capacity of up to four CNC machines, doing the same job with a band saw which is the cheapest form of tooling.
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The internet has made the world a very small place indeed. Sites like Pinterest, to name but one, have had such a profound effect on the way that trends are born and how they spread across the globe.

One good example of this is the world of furniture design. Be it office furniture, or furniture for the home, the days of the ‘standard range’ seems to be counted. With the diversity now literally available at the tap of a button on your phone or computer, the possibilities are endless and it seems to have really taken off in South Africa.

“It has become nearly impossible to identify a certain style or design that is prominent and manufacture according to that alone,” says Dennis Grooteman, general manager for manufacturing at Johannesburg-based office furniture giant Ukhuni Business Furniture.

“While there are certain design elements that become prominent from time to time, the real growth in the industry seems to be in the custom design and manufacturing space. It is now at a point where nearly half of our customers know what they want before they even contact us. We are seeing more and more clients who want custom designed furniture instead of buying an existing and established range.”

While there is good money to be made in the custom design and manufacturing space, it does present manufacturers with some challenges in terms of the manufacturing process, but this has not deterred manufacturers like Ukhuni and they have, over the years, even incorporated some of these custom elements into their highly popular furniture ranges.

“It is all about feeding the need that is out there,” says Grooteman. “Demand dictates what you do as a manufacturer and we have been very fortunate to have built this business and our manufacturing processes in such a way that we are able to cater for clients that prefer to have their own custom designed furniture.

“Some elements that are on the rise in the office furniture space, is the shift toward the paperless office,” says Grooteman. “This has resulted in major changes to the design of storage units as well as desks. Everything is now geared toward the electronic elements, like computers and how they fit in with the furniture. This means we are seeing desks designed specifically around the computer monitor and not so much to accommodate paper and stationary.

“But as far as a specific design element is concerned, I think that the demand out there has just become too diverse to name anything else as a specific trend.”
“Much higher value is being placed on ergonomics than ever before and our furniture is designed with the comfort, well-being, and productivity of the employee in mind, but the fact is that the growth within the industry lies in custom designed office furniture.”

The challenge when it comes to custom designed office furniture, over and above the physical manufacturing of the range, will always be price.

It stands to reason that custom designed furniture comes with a heftier price tag that an off the shelf product, and in today’s economy, people are nervous to spend too much money.

“It is a practicality that needs to be dealt with right at the outset, but we manage to work with our clients and we have to obviously stay within their budget.”

According to co-owner of Magna Kitchens, Wikus van der Merwe, the picture looks very similar in the domestic furniture space.

“There is definitely still a market for the standard ranges of domestic furniture, but at the same time it has become increasingly difficult to identify any one specific trend in the furniture manufacturing sector,” says Van der Merwe.

“We’ve seen a significant rise in the custom manufacturing space where people saw a picture of something that they want on Pinterest or elsewhere, or just have their own ideas about what they want.

“It does make it difficult because designing and manufacturing according to a trend or trends does simplify your business and your manufacturing process to an extent. But your clients dictate what you do and if the demand is there, you do what you can to fulfill that demand, or your competitor will.”

According to Van der Merwe, there are some trends that that are identifiable, like the current shift toward lighter wood grain colours, like greys, monocoat, and white washed oak.

“There is also a definite shift away from thicker countertops, with most people now preferring thinner, 20mm countertops. This has actually helped a lot because of the obvious reduction in price that come with using a thinner countertop.”

But very much like in the office furniture industry, the demand for custom made pieces has definitely grown in leaps and bounds.

"But your clients dictate what you do and if the demand is there, you do what you can to fulfill that demand, or your competitor will"
Comment on national forestry certification standard

South Africa is developing a South African National Forestry Certification (SANFC) standard as part of the South African Forestry Assurance Scheme (SAFAS), which will seek endorsement by the Programme for Endorsement of Forest Certification (PEFC).

This standard is based on the national principles, criteria, indicators and standards framework. You are invited to comment on the second draft of the SAFAS certification standard which is downloadable from the website: http://www.forestry.co.za/safas/

Please write your comments in the appropriate column next to the requirement. General comments can be added on a separate document or e-mail. E-mail your comments to Craig Norris at craig@nctforest.com. Additional information is available from Craig Norris or David Everard at david.everard@sappi.com.

SA treatment products supplier extends reach in Africa

Mossel Bay’s Dolphin Bay Chemicals has extended its agreement with New Forests Company (NFC) to include Tanzania, making it the sole supplier of treatment chemicals to the NFC group in Africa.

Dolphin Bay already supplies NFC’s operations in Rwanda and Uganda. The extended, three-year agreement, comes as Dolphin Bay implements a hands-on approach for its clients in East Africa.

“This work corresponds with the Quality Pledge we are introducing to the industry,” says Dolphin Bay’s managing director, Bertus Coetzee. “It is fantastic for us to work with a fast-expanding, progressive company like NFC, which seizes new opportunities wherever possible and has large amounts of energy, which it channels into positive growth”

Stephen Moore, NFC’s chief financial officer says “We chose to extend our agreement because of the quality of service that Dolphin Bay provides, and our positive business relationship. We work in partnership to solve the challenges our business faces. It is much better for us to have a whole solution of this nature, and it’s great to have someone to work with in this way for the long term.”
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When brothers Wynand and Wikus van der Merwe bought the family business from their father, Steve, in 2010, Magna Kitchens was already a well established business, trading since 1983 and specialising in the design and manufacture of kitchens, built in cupboards, vanities, corporate, and custom furniture.

But, says Wikus, in order for the company to grow to its full potential, there were some changes that needed to be made.

These included the purchase of new machinery to ensure that the company had the best available technology on hand in order to grow the business and remain competitive in the already tough market.

The company set out to purchase new machines and they found what they were looking for in terms of quality at Donald Fuchs Woodworking Machinery.

“We now have a beamsaw, two edgebanders, a vertical CNC machine and an industrial sander from Donald Fuchs.

“We have also recently purchased a new flatbed CNC machine, which has enabled us to greatly increase our capacity, as well as our product range.”

The company’s association with Donald Fuchs Woodworking Machinery has obviously paid off, as they have managed to increase their workspace threefold in the last seven years.
“The last seven years have been a steep learning curve for us. Luckily we already knew the business as we had basically grown up in it. But times were changing and we had to look at upgrading our old machinery in order to stay ahead and keep a competitive edge.

“The choice to go with Donald Fuchs Woodworking Machinery basically came down to which machines offered the best value for money and the best quality.”

“As a manufacturer in this space, taking into account the current state of the economy, it is imperative for us that our machines are always in perfect condition, and so another consideration was technical back-up and support, as well as regular upkeep and maintenance of the machines.

“The team at Donald Fuchs has always come through for us, be it with technical back up and support, or with the scheduled upkeep and maintenance of the machines. It is essential for a company like ours to have be assured of the availability – within reason – of technical support in case something goes wrong. A machine never decides to break down at a time that is convenient to you, so if and when a problem arises, it is essential that you are able to sort it out with minimal effect on your production schedule.

“We have been very happy with the service from Donald Fuchs Woodworking Machinery,” says Van der Merwe.
After taking over the reins from their father, the brothers quickly set about rethinking their entire production process to ensure that they were able to maintain strong output and to maximize their efficiency.

“Times are tough and one of the ways in which we are able to stay competitive is by making sure that every aspect of how the company runs, is efficient as possible.

“We looked at everything from scratch and put processes in place to ensure that not an ounce of energy is wasted, from planning and logistics, to the production process and even installation.”
As you walk into the bustling production office at Ukhuni Business Furniture in Wynberg, Johannesburg, it is immediately evident that this is an operation geared toward maximum efficiency and absolute practicality.

This is immediately evident when you look at every aspect of how the manufacturing space operates, from housekeeping right through to the very deliberate design of the factory to allow for clean, fast moving, clutter free, and efficient work flow from one department to the next.

And in today’s economy, says general manager of manufacturing, Dennis Grooteman, a strict focus on efficiency and practicality in every area of the manufacturing process is possibly the best way for a company to retain its edge and remain competitive.

“I have visited factories all over the world and I guess you take the best ideas that you gather and try to incorporate them to fit your application. It takes a lot of planning and strict management to ensure that everything works like clockwork, but it does make a huge difference in the efficiency of not only your work space, but also in the efficiency of your staff, as it simplifies the process and makes everything run as smoothly as possible.

The company started in 1993, as a distributor of office furniture initially, and later, in 1997, when they moved to their current premises – a 12 000 m² factory in Wynberg – the focus shifted to include the design and manufacture of their impressive range of business furniture.
The company began investing significantly in local designers and it struck gold with the very popular Skala range, designed by world-famous industrial designer, Brian Steinhobel, becoming - and remaining - a big name in the business furniture industry.

According to Grooteman, the fact that the company offers such diversity in their range of products is definitely a big reason why they are able to remain one of the main players in the office furniture space.

"While we have our set ranges that are very diverse, more often than not, we are finding that clients want their own thing in terms of design. It is becoming more and more a question of whether, as a company, you are able to sit with the client and come up with a practical solution to their furniture needs, that firstly falls within what they want in terms of design, as well as within the budget for the project.

"It is of vital importance that your manufacturing space is set up not only for maximum efficiency and optimal workflow, but also in such a way that allows you to produce such a diverse range without compromising on the efficiency of the factory."

According to Grooteman, the last five years especially has seen the market move away from the standard lines to the extent that nearly half the jobs that they currently take on, is completely custom and manufactured to the client’s needs.

"The market dictates what it wants and you have to keep your ear on the ground and your finger on the pulse if you want to make it in this industry," he says.

Another key to the success of Ukhuni, says Grooteman, is the fact that they use only local products in the manufacturing of their business furniture. "It is a great benefit, since we are not really affected by the volatility of the rand as most of the products and materials we use are local."

In terms of automation, the company has, through the use of only the finest European machines, managed to automate many manufacturing processes. But automation to the extent that it is being done in Europe, is not really ideal in South African manufacturing conditions.

"The problem is that, while automation does make your life easier, it does come at the expense of some of the diversity that you need in South Africa," says Grooteman.

"In Europe, companies tend to specialise in a specific range or ranges and their offering is generally nowhere near as diverse as ours is. We have our manufacturing space set up to ensure maximum efficiency and workflow, and also to allow us to produce a wide a range of products as possible to satisfy the needs of our clients."
"Automation can start to limit you in terms of the diversity and flexibility of the manufacturing line."

In addition to the company’s push to be one of the most prolific business furniture manufacturers in South Africa through its use of local products and materials, and its focus on efficiency and the extraordinary diversity of its offering, it is also very conscious of the environmental impact that its products and its manufacturing process has.

“We undertook a drive to significantly lessen the impact that our products and our manufacturing process has,” says Grooteman. “It is more than just a drive toward green manufacturing as a globally growing trend, but a genuine effort to minimise the negative impact that our products and processes have on the environment.

“Therefore we have opted to use only VOC free products, like our glue and edging as well as the paints that we use.” The company currently runs eight CNC machines, among which four are Masterwood machines from local agent REM, and four are Weeke machines from Donald Fuchs Woodworking Machinery.

The composite boards used by the company start off at the two beamsaws, one for rough cutting and the other, a new Homag machine from Donald Fuchs Woodworking Machinery, for precision cutting of the boards. There are eight CNC machines, among which four are Masterwood machines from local agent REM, and four are Weeke machines supplied and commissioned by Donald Fuchs Woodworking Machinery. After routing, drilling and grooving the furniture components go to one of the two Ott edgebanders, also from REM.
Both the George and Pietermaritzburg editions of the wildly popular Working with Wood Show, organised by top local power tool accessories supplier, Vermont Sales, will be held at from 22 to 25 September at the the idyllic Nelson Mandela Metropolitan University, George Campus, and at the popular Pietermaritzburg Royal Show Grounds – where it will be held in conjunction with the Witness Garden Show – respectively.

Vermont Sales is currently the largest importer and supplier of tools and accessories for tradesmen in Southern Africa, with a catalogue consisting of nearly 12 000 active products from various manufacturers.

“The Working with Wood plan is to have a major show in every province,” says Ryan Hunt, sales director for Vermont Sales, the founders of the Working with Wood brand and shows.

“We seem now to have found ideal venues at all the main provinces and towns like Pietermaritzburg’s Royal Show grounds. We look forward to hosting our Working with Wood show here in conjunction with the Witness Garden show team,” says Hunt.

Top South African and international exhibitors will be present at both shows, showcasing the latest in innovative products, doing live demonstrations and sharing their woodworking skills and crafts from woodturning, carving, chair-making, sharpening, pyrography, boatbuilding to furniture making.

Everything timber related and eco related, from mobile milling of slabs, to fine furniture and sculptures, sustainable alternatives for the home and natural resource management displays. This show will highlight sustainable timber production and the latest tools and technology from all over the world.

The latest leading international brands, such as Tork Craft, Bessey, Triton, Pro-Tech router bits, Kreg, Festool, Saw Stop, Armor, Nes, Olfa, Felo, Rawl Plug, Alpen, Drill Doctor, Spring Tool, MPS, and many more amazing quality international brands and products will be on display and will be demonstrated by the Working with Wood team.

“All the latest tools will also be available to purchase at the shows so one can see the demonstrations, test the tools, ask the experts and buy the latest in tools from the show,” says Greg de Villiers, sales manager Vermont Sales.

“This show is all about working with wood, and demonstrates the latest unique innovative technically advanced tools and accessories on the market today. We will have the complete spectrum of tools and solutions for the woodworking industry that includes the professional, hobbyist and all DIY’ers,” says de Villiers.

The normal show stopper is the circular saw from Saw Stop, with its built-in safety system triggers that automatically shut down the saw within 5 milliseconds should the blade make contact with the human skin.

“We are delighted at the response from the public last year and that we were able to give back to the local community. We look forward to returning to George this year,” said Daniel Melin Working with Wood.
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If there is one thing that I have learned in my short time writing for the woodworking industry it is that you will be hard pressed to find a more competitive industry with such focus on precision, value adding, premium quality and innovation in South Africa.

The competitive edge is everything and thus the machinery that you use makes all the difference when it comes to efficiency, output, and quality.

According to general manager for manufacturing at Johannesburg-based office furniture manufacturer, Ukhuni Business Furniture, Dennis Grooteman, this is precisely the reason why the company has had such a long and fruitful association with woodworking machinery supplier, Donald Fuchs Woodworking Machinery.

“We bought our first machine from Donald Fuchs Woodworking Machinery about 17 years ago now,” says Grooteman. “And many more followed over the years, including two recent purchases of Weeke CNC machines.

“The fact is that when you work in the environment that we work in, which is a highly competitive market where you are basically as good as the last order you sent out, you cannot afford to compromise on even the tiniest detail. It has to be perfect when it goes out the door, because your reputation in the market is everything.”

And when you have worked as hard as the team at Ukhuni to build and maintain that reputation of excellence, it is not something you can afford to let slip for one moment. The company has, over the last two decades since its establishment, built up quite a reputation for its innovative and diverse business furniture solutions, raking in awards for its designs and netting large contracts, due in part to its willingness to think outside the box by incorporating their clients’ design preferences with Ukhuni’s tried and tested ergonomic furniture ranges.

“A key focus for us at Ukhuni is the excellent quality products that we manufacture,” says Grooteman. “The only way in which we can live up to that standard is by using the very best that is available as far as machinery goes.

“It is also essential to have the necessary technical back-up available for if something goes wrong. With the economy the way it is, there is no way one can afford to put production on hold because of a machine that is down for whatever reason.

“Our association with Donald Fuchs Woodworking Machinery has helped us tremendously in the sense that the Homag and Weeke machines that we bought from them is basically as good as it gets in terms of the quality of work that you achieve, as well as the sturdiness of the machines, which means that breakdowns are really kept to

Ukhuni gains the edge with Donald Fuchs Woodworking Machinery
an absolute minimum as long as you keep to your upkeep and maintenance schedule.

"Their technical back-up service has also proven to be second to none, which means that, on the off chance that something does go wrong, the problem is generally attended to quickly and efficiently with minimal disruption to our very tight production schedules."

According to Hein Swart, who recently, along with partner Iain Fuchs, took over the reins from industry stalwart Donald Fuchs, it has always been a focus at Donald Fuchs Woodworking machinery to supply only the best of what is available on the market.

"The Donald Fuchs brand is synonymous with premium quality and we are well-known for the sturdiness of the machine ranges that we supply, as well as for our efficient and quick technical back-up service.

Our team of technicians undergoes regular training and they understand the pressures that our clients are under when it comes to their production schedules.

One of the reasons why our clients tend to be long term clients and not just make one-off purchases, is the fact that they know that when they buy a machine from us, they can rest assured that they have invested in a premium quality piece of machinery.

There is also the fact that they know they can rely on us to react swiftly and efficiently when they do need technical assistance."
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