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HUSQVARNA 580 BTS BACKPACK BLOWER
75.6 cc • 3.3 kW • 331 km/h • 11.8 kg

One of the most powerful, commercial backpack blowers in the world, the Husqvarna 580BTS, has earned its reputation as a highly effective fire control tool for foresters and farmers. With its powerful X-Torq® engine, the 580BTS produces the highest air flow of all backpack blowers on the market today, pushing out close to 26 cubic metres of air per minute. The 580BTS is also equipped with Air Injection™, which cleans the in-take air before entering the engine, an important function when working in dusty, sooty environments.
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Message from the Editor

By Joy Crane

At the start of this month I attended the Chinese international furniture fair and Interzum held in the southern Chinese city of Guangzhou in the province of Canton. It was a fascinating and far too short visit. You can read the initial report on the events in the woodworking section of this issue of the magazine.

An overriding impression of life in Guangzhou is the extent to which mobile devices control everyday living. Everyone with a mobile phone was busy with it, whether they were riding a bicycle, driving a car, taking the tram or metro, eating at a restaurant with friends or walking down the road. It seemed that everyone was texting or sending and listening to voice messages aloud, with not a thought for privacy. In many ways the Chinese economy seems to be driven by mobile devices as it was impossible to hire a public bicycle without having an app to unlock it and I couldn’t order food in some restaurants as the only method of paying was by means of a barcode app. And, of course it is difficult to access gmail, Facebook, google or YouTube because these services are limited.

This got me thinking about digital technology in South Africa. Recently I popped into my local shopping centre to buy a printer cartridge and when I got into my car my cell phone received a message from the shopping centre asking me to rate my experience. Yes, I know I have once again unwittingly missed the miniscule box that lets me uncheck permission to track my movements, but why must I opt out rather than have the choice to opt in?

I must hasten to point out that I am not a luddite. Information technology must be embraced and put to good use. Every day I receive an email, a newsletter or conference invitation referring to the advantages and applications of technology. More and more local forestry, sawmilling and woodworking companies are investing in machines and information technology systems that assist them to measure and improve their efficiencies. If something goes wrong, then the system sends a message to the manager’s cell phone.

This is part of Industry 4.0 and its related digitisation of the economy, with tools that improve efficiencies and innovate and upgrade machine-human interfaces, production, and process management systems. In 2016 PwC conducted a global Industry survey of industrial survey of Industry 4.0 among 2000+ global industrial and mining companies in 26 countries. South Africa, with 61 companies surveyed, was one of the largest single country inputs into this research. The survey found that the areas of focus include digitising and connecting functions, such as digital order processes, customised product development and the automated transfer of product data to connected planning and manufacturing systems, and further on to integrated customer service. More than 70% of the respondents in South Africa were expecting a greater than 10% improvement in efficiency gains. Also, more than 70% were expecting an over 10% reduction in costs from operations and an over 70% improvement in additional revenue in the next five years.

The lack of digital culture and training (58%) and insufficient talent (40%) were identified as top challenges by most companies. Lack of skills or competencies in the company’s workforce was also rated as one of the biggest challenges by survey respondents when it came to making use of data analytics (66%).

A new working paper by the OECD finds that 14% of jobs across 32 countries have at least a 70% chance of automation. A further 32% were slightly less threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability further 32% were slightly less threatened, with a probability 70% chance of automation. A new working paper by the OECD finds that 14% of jobs across 32 countries have at least a 70% chance of automation. A further 32% were slightly less threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%. At current employment rates, that threatened, with a probability between 50% and 70%.
Reputation for after-sales service clinches deals for local forestry machines fabricator

“It’s not the upfront deal that makes the sale, it’s the ability to talk directly with the machine manufacturer and to know that back-up and spares are immediately available,” comments forestry contractor, Roger Johnston.

Johnston is talking about Dezzi, the manufacturer of local plant and machinery for numerous industries including forestry. “I say this without a shadow of reservation. The lines of communication are open and there is no need to wait for decisions to be made or answers to come from overseas. All of this is essential if you want your business to succeed.”

Dezzi machines boast a local content of between 70% and 75%. The machines are designed and manufactured at the company’s enormous factory in Port Shepstone on the KZN south coast. Only the engines, transmissions and winches are imported from leading manufacturers in the US, UK and Europe.

Dezzi is a family-owned business in all senses of the word. Brothers Carl, Jade and Shane, and their mother, Louise, are all involved in the day to day running of the business. In 2008, the founder of the business, Desmond Gutzeit, moved to the back seat and left the driving of the business in the capable hands of three of his four sons, who jumped at the chance of stepping into his boots.

The family has continued to grow the business, and at present between 120 and 150 machines roll off the line every year. Carl Gutzeit says that when the first Dezzi machine, a front end loader, rolled off their small production line in 1996 they never dreamed that they would be able to achieve such a target.

“The market reaction to the Dezzi resulted in three loaders being manufactured and sold in the first year, and five units the following year. The year 1998 brought considerable growth in Desmond's sales as 14 front end loaders were sold. At the same time the Dezzi A-series haulage tractor was introduced to the market and proved to be so popular that 16 units were sold in its first year of production.

“That is when we looked back and realised that our growth is not only all about the product. Satisfied customers keep returning to us because of the way in which we conduct our business. It is all about being honest and open in business and providing the best possible service,” explains Carl.

An added feature of the company is that for the past 21 years it has developed and launched a new product range every year. “Last year was marked by the launch of our new backhoe loader and this year we are exceptionally proud to unveil Dezzi’s DS120T Cable Skidder for the forestry industry.”
It is official. Port Shepstone based Dezzi has finally announced what everyone has been waiting for, the brand new, locally designed and manufactured wheeled DS120T cable skidder is a success and the order books are open.

Carl Gutzeit, director of Dezzi says the development is a major milestone for the company, and describes how it took a mere seven months to develop the machine from a design concept into a fully operational and productive heavy-duty forestry machine.

The project started in May 2017 when the idea of the skidder was sold off-plan before the design process was completed. “This faith in the abilities of our professional research, design and manufacturing processes and engineers presented a challenge we knew we could meet,” explains Carl.

And meet it they did. In January the prototype was offloaded in Harding where a forestry contractor cut the skidder’s teeth in arduous conditions on steep slopes. They celebrate the launch of its first South African-designed and built skidder
Forestry gave the task to his most experienced operator who drew on more than 20 years’ experience to test the machine.

“At the end of the first day the operator said he was satisfied with the machine’s performance and by shift-end on the second day he said he didn’t want to get out of the machine. During this testing period the only adjustment that was needed was to fix a weeping cylinder,” Carl reports.

One month later the skidder, accompanied by a team of Dezzi engineers, arrived in the southern Cape. The owner of the new machine, Roger Johnston is a forestry contractor currently employed by PG Bison to salvage burnt pine timber in its Ruigtevlei plantation near Sedgefield.

“Our engineers left after a week because the only problem they had to solve was to change a grease nipple,” Carl says with a proud smile. “We are working closely with Roger to iron out any wrinkles and are pleased to announce that the skidder does not need any major rework.”

Carl attributes this to the amount of research done before approving the final design. “We consulted widely with all the top forestry contractors to find out what features they would put on their wish list for an ideal skidder for South African conditions. The list was incorporated into the final specifications we handed over to our designers.” Carl says that common items on the lists were:

• Driver safety and comfort
• Low centre of gravity
• Longer than average wheelbase
• 2.9m width across the outside of the wheels
• Low overall height and increased ground clearance
• Good winch power and speed

The skidder’s engine compartment is easy to reach

Carl Gutzeit with the newly launched skidder

• Stable and agile
• Easy access into the cabin
• Easy access to key mechanical areas
• Driver vision as unobstructed as possible
• Uncomplicated electronics

Askered about the timing of the development of the skidder, Carl explains that five years ago, Roger suggested that the Dezzi team should consider adding a skidder to their fleet of forestry vehicles. “When we looked into it we decided that we were not ready to do so. We have, however, received a number of enquiries about a skidder and

•
last year we knew it was time to act. I contacted Roger early last year and he immediately placed his order and told us he what he expected from the machine."

Roger has handed responsibility for the machine to Morris Nkomo who has decades of experience under his belt. Morris says he can find no fault with the machine and that his favourite features are the:

- Comfortable seat that swivels 360 degrees with easy access to dual controls, steering and braking functions
- Excellent driver’s view from the cab due to the unique rake of the bonnet
- Air-conditioned cab
- Hooter on the winch joystick that makes it easy to communicate with the chokerman in the field
- Double fail-safe brakes that can be activated by the park brake lever or the emergency stop button
- 40,000 pounds hydraulic winch
- 520mm ground clearance that can increase depending on tyre choice.
- Hydraulic Tilting cab
- Features like the grease manifold and easy to open access to the hydraulics and engine that make maintenance uncomplicated.

Almost 75% of the skidder is made from locally sourced materials and the only international components are the:

- British Cummins 6BT mechanical engine
- German transmission and axles
- American made Rexroth Allied WH400 winch, pump, Rexroth motor and allied hydraulic works

Carl invites everyone interested in the Dezzi skidder to contact the company. He says they are already busy with their next project, the first South African Single-Arch grapple skidder.
Forestry contractors are made of strong stuff

When Roger Johnston of THT was informed by PG Bison that they wanted his company to join harvesting teams in the Southern Cape to help salvage about 4500ha of burnt plantations left in the wake of last year’s fires, he first consulted with his team before agreeing to the project.

“It was not an easy decision to make because our team of 17 experienced men all have family and community responsibilities. It is difficult for a father to leave his children and his wife for many months,” observes Johnston.

With permissions sorted out, the team relocated to the Sedgefield area, between Knysna and George, hundreds of kilometres from their home-base in KZN. Johnston anchored his caravan in a campsite and found accommodation for his team at Rheenendal village, which has now been their home from home for nearly a year. The whole team converses in Zulu and the men know that Johnston is always ready to listen and assist them if they are homesick or have any other issues.

Ruigtevlei plantation

The conditions at PG Bison’s Ruigtevlei plantation are very different to anything THT has experienced before. “We are used to working in KZN where the terrain is rocky, and the soils are red and hard underfoot. Here the soil is sandy and dune-like which adds an element of natural braking to our motorised operations. We do have to take extra care to keep our impacts on the environment as low as possible because it takes a long time for harvesting scars to disappear.”

The sawlogs are cut to a maximum of 6.7m for forwarding and stacking on PG Bison’s wet deck system or for transporting to PG Bison’s Thesen Sawmill in George. PG Bison received special permission for the wet deck where approximately 200 000 cu.m of logs are stacked and are irrigated at a rate of 25mm of water per day from boreholes drilled into an aquifer.

Logs that fit the specifications for poles are readied for transporting to Woodline’s pole plant at Grootbrak River. The processing at the landing is carried out under the watchful eye of THT’s quality controller who checks all the logs for straightness, and permissible lengths, defects and diameters.
Forestry contractors are made of strong stuff

THT’s harvester and forwarder can access only up to about 40% slopes, beyond that is where THT is putting their chainsaw operators and new Dezzi skidder to the test.

Manual harvesting

When it comes to manual harvesting, Johnston says the focus is often mainly on chainsaw operators and the challenges they face when it comes to working efficiently on steep slopes while carrying their chainsaws and equipment. “They need to be fit and highly skilled in felling trees as safely as possible. We have daily tool box talks and have had to step up our maintenance routines to cope with the carbon from the burnt timber. It increases the wear and tear on the chainsaws leading to more frequent air filter replacement,” explains Johnston.

A somewhat less glamorous job is that of the chokerman whose task is to securely fasten a choker chain and sliders around a log as fast as possible so that it can be dragged to the landing without dropping. This is easier said than done because the chokerman has to work very closely with the driver of the skidder to coordinate the start of winching and dropping off of choked trees. Their only way of communication is by means of a whistle and the vehicle’s horn.

The conditions at Ruigtevlei are particularly rough. The chokerman has to be very fit and agile to work on slopes characterised by deep sandy and slippery soils where the massive fire front burnt stumps and root systems that have left deep holes and hollow areas below the ground. A person can easily stumble into these holes or have the earth give way above a burned-out root system.

Johnston says that when they arrived at the site, a few months after the fire there was smoke coming out of some of the holes because the roots were still smouldering. Making things even more treacherous is the fact that most of these holes and trenches are now concealed by a thick layer of dead pine needles and new growth of fynbos, trees and weeds.

Farmer to forestry contractor

Johnston is fascinated by the shapes, colours and variety of the Western Cape’s fynbos flower kingdom, which he has not encountered before. He was a farmer in a former life where his experience with managing the tract of timber on his land near Balgowan got him interested in forestry. In the mid-nineties he sold the trees to Mondi and saw a business opportunity in hauling timber. Timber Haulage Trust (THT) was born and initially specialised in hauling timber for Weza sawmill.
THT sold the haulage business in Harding and then continued operating as Westfield Farming Estates trading as THT.

In 2008 Roger took the plunge to branch into mechanised harvesting, and this is when he knocked on Dezzi’s door and got involved with the development of the purpose-built timber machines.

“I needed a timber truck and knew about the Dezzi sugar and construction industry machines,” explains Roger. “I had a machine in mind and approached Ron Stroebel who was working for the company at that time. We specced the first Dezzi B-series timber truck forwarder.”

First Dezzi AT20B clocks 26000 hours

Carl Gutzeit says the concept Stroebel and Johnston arrived at was a hybrid timber truck forwarder with a crane on board. Johnston ordered the first machine and this AT20B machine was commissioned in 2008. This “Super Dezzi” has more than 26000 hours on the clock and still works a double shift at its new home in Ruigtevlei.

Johnston says the machine is continuing to make a difference for their contracting business. “It is capable of loading and moving loads from infield of between 16 and 22 tons in lengths of up to about 6m over long lead distances. I believe the addition of the skidder is going to help us improve our productivity and harvesting and extraction methods.”

Basic brilliance

Newly released in South Africa, the STIHL MS 661 professional-grade chainsaw offers excellent value and a robust performance especially for the professional forestry market. Innovative STIHL 2-MIX technology has this machine delivering enhanced 50 kW power from a 2-stroke engine with exceptional power-to-weight ratio and first-rate torque development for a performance designed to tackle the harvesting of heavy timber and denspuming. This uncomplicated and sturdy machine offers typical STIHL quality plus cost-effective, simple maintenance. Having been produced for use in the field, focus on comfortable and safe operation is paramount, with reduced weight and superior guiding rigidity for optimal control thanks to the double bumper spike, and the improved anti-vibration system has cut vibrations by around 50%. The standard roller chain catcher is low wearing and the HE2 filter system with radial seal repels even very fine dust for increased periods between cleaning and servicing. Robust, reliable, simple and cost-effective, with the MS 661 STIHL has produced another winner!

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

www.stihl.co.za
The science faculty lecturers in the School of Natural Resource Management at Nelson Mandela University (NMU) George Campus marked the start of the 2018 academic year with a meeting with members of the Forestry Programme Advisory Board.

This an annual event and helps to ensure that the faculty and industry are in agreement that the university’s programme offerings are relevant to industry needs and developments. The board has a wide remit and plays a cardinal role in many areas such as include defining and setting academic standards, providing input and guidance on the curriculum, staff recruitment and development practices, funds and bursaries, and work integrated learning opportunities.

Robin Clark, managing director of the George-based furniture manufacturer, Touw Meubels, joined the board more than 15 years ago.

He represents the interests of the furniture industry and over the years has contributed whenever wood technology matters are raised that affect the furniture industry.

**NMU Forestry Programme Advisory Board**

Forestry South Africa (FSA) is endorsing the Timber Industry Pesticide Working Group (TIPWG) and its newly launched industry-focused website on pesticide use.

The initiative is aimed at foresters, technical staff, students, small- and medium-scale farmers, and is an information and illustration-rich website focusing on pesticide-related matters.

The portal, www.tipwg.co.za has been put together by the TIPWG (pronounced tip-wig). The organisation currently consists of a chairperson, who has not yet been appointed, a five member administration and technical team, and a group of 33 representatives from the forestry sector, pesticide manufacturers, government and conservation groups.

TIPWG promotes the responsible and effective use of pesticides in South African commercial timber plantations through industry collaboration and the provision of technical support and guidelines on issues relating to, among many other things, compliance. The portal offers those in the forestry sector a technical one-stop shop for all things related to pesticides in an easy-to-read format supported by infographics and additional links.

It covers the basics of pesticides and sustainable, responsible pesticide use as well as providing the approved pesticide lists for commercial plantations, nurseries and conservation areas along with standard operating procedures for their handling and application.

"By managing our commercial forests sustainably, we can make a positive impact on those living in, around or near plantations; making them greener, healthier and happier places to live," says Jacqui Meyer, TIPWG secretariat and independent forestry consultant.

Bacteria, fungi, insects, parasites, weeds and animals can all become pests if their influence disrupts the timber plantation’s productivity or its commercial viability. Tree pests and diseases pose the biggest threat. “Controlling pests and diseases in over a million hectares of plantations is no small task, and every year in South Africa, the industry invests a considerable amount on pest and disease control,” explains Meyer.

Compared to other sectors, forestry uses a small fraction of the chemicals per hectare due to world-leading biological-control programmes that combat most pests and diseases.
Forestry

He explains that the forestry advisory board meet at least twice year. “The first one in the year, which was held recently, is interesting because we discuss classes, curricula, and student numbers.

I think the advisory board plays an important role as it is attended by all the industry role players such as pulp and paper, wood fibre processors, industry associations and other timber users,” explains Clark.

“The fact that NMU maintains contact with all these various sectors is essential for their training to remain relevant and also to ensure that the industry supplies students for NMU’s courses. It is in my opinion a win/win.”

This year the participants at the meeting included Tiaan Pool (programme co-ordinator for Forestry and Veldfire Management), Dr Anton Schmidt: (director: School of Natural Resource Management), Richard Muller and Barry Muller (Wood Technology department), Adv Glenwin Sefela, Andrew McEwan and Michal Brink (CMO), Tatenda Mapeto, Muedanyi Ramantswana, Prof Jos Louw, Hannes van Zyl, Robin Clark, Thinus van Vuuren, and Roy Southey (Sawmilling SA).
Danish company, Ellepot, has launched a local subsidiary, Ellepot South Africa and welcomed their local partner, Shaun Biggs into their fold.

Ellepot is a fully integrated propagation system that uses a range of specialised FSC certified paper pots to grow seedlings and cuttings in. It simplifies the logistics of getting plants from nursery to field, and substantially increases the survival rate of the seedlings. It eliminates the need for plastic or polystyrene trays and the paper pots fully biodegrade in the soil.

The CEO of Ellepot in Denmark, Lars Steen Pedersen says the company is pleased to have an office in South Africa. “We have formed a strong partnership with Shaun Biggs who is heading up Ellepot SA,” says Pedersen.

“Due to the increase in Ellepot customers across the African continent we needed qualified local support. Shaun shares our passion for optimising our customers’ business. We’re proud to have found such a dedicated partner to guide and service our customers and to help them to grow.”

Biodegradable paper pots

Biggs says he is convinced that by 2028 all seedlings will be supplied in biodegradable paper pots. “The system was developed in Denmark 25 years ago and has been widely adopted in the vegetable, landscaping and ornamental industries in Europe, and is now utilised extensively in the forestry industries in Asia and South America,” he explains.

Although Biggs operates Sutherland Seedlings, Ellepot SA is a separate company. Biggs describes how he began researching alternative and biodegradable solutions to replace the bulky plastic and polystyrene trays widely used for the cultivation, packing and delivery of seedlings. The trays take up a lot of space in the nursery, on the trucks and at the holding nurseries. These trays damage the tap and radial roots of the seedlings and can result in up to 10% loss of plants due to bad handling of the fragile plant during the planting phase.

“The trays also cause a lot of friction in an otherwise excellent supply chain relationship. Deposits are paid by our clients and repaid when we have collected the empty trays. Unfortunately, a lot can go wrong during the silviculture process and we have no choice but to withhold deposits when trays are damaged.”

These and related operational issues led Biggs to Ellepot. “It is an exciting system and I immediately contacted them to find out more. I visited several nurseries in Uruguay and Brazil, where silviculture practices are very similar to ours and saw how effective the Ellepots are. The meeting with Ellepot in Denmark was amazing and convinced me that I was on the right track.”
From an initial purchase of one second hand Ellepot machine for Sutherland Seedlings in 2016 the nursery now has five machines and has completed successful trials using different papers, trays and delivery methods to modify the system for South African silvicultural practices. “The feedback has been encouraging, and this is without a doubt, the way to go.”

**Improved efficiencies and cost savings**

Internationally, studies show that logistics and planting costs can be reduced by up to 40%, simply by switching from plastic to paper pots.

The advantages include:
- Faster root development because the paper pots are designed to maximise airflow and to encourage air pruning of the roots.
- Uniform rooting
- FSC certified paper is used and is fully degradable. There is a range of papers available, each with its own decomposing time. For example, the white Ellepot Forestry paper decomposes in about 8-12 months.
- Healthier plants with natural root architecture
- Reduced mortality to less than 5%
- Reduced transplant shock caused by poor handling of the plants
- Faster transplanting with up to 20 – 30% saving on costs
- A biodegradable and fully sustainable solution

Apart from the obvious change in the way seedlings are grown and packaged, there are benefits in the logistics of managing the supply of seedlings.

“We recommend moving to a just in time (JIT) system. This necessitates moving away from the traditional process where a lot of handling of seedling trays and seedlings takes place between the time they are loaded onto the truck at the nursery, delivered to the holding nursery and then planted in the soil. This process is highly inefficient,” says Biggs.

**Just in time (JIT) logistics**

The JIT method changes the relationship from a pull only process to a pull-push process. The silviculture manager orders the seedlings needed for that week. Seedlings or cuttings grown in Ellepots are delivered to the customer in a bundle. Each bundle is wrapped in pallet wrap for easy handling. The pallet wrap is removed, and the plants are placed directly into the prepared pits. The Ellepot paper protects the plant’s root system during handling and is well suited to mechanised silviculture.

The supplier takes on the added responsibilities of ensuring that the exact number of specified seedlings are available in the correct paper pots and delivered to the forest for same-day planting. Everything is biodegradable and there are no trays to handle. Biggs says there is no longer a need for a large holding nursery, which reduces the cost of silviculture considerably and makes the whole operation leaner.

**The game changer**

“The game changer is that the focus is going to shift from managing logistics to managing the planting cycle. There are already 15 Ellepot machines in the country and we’re working with several leading forestry nurseries...”
The Nelson Mandela University (NMU) forestry students recently received a donation of scaled models of a John Deere tracked harvester, forwarder, tracked feller buncher, grapple skidder, track-based loader and grader for use as training aids for its forestry courses. Bell Equipment, the local distributor of John Deere machines, also donated laser-cut wooden models of a Bell logger and tractor.

Muedanyi Ramantswana, forest engineering lecturer, explains that the majority of first year forestry students come straight from high school and only a few have had access to forestry equipment. “These models will be particularly useful when we explain and demonstrate various technical concepts about forestry machines. The students are very grateful that John Deere and Bell Equipment made these donations to help prepare them for in-field experiences.”

John Deere has invested in education and training of forestry students for a number of years and in 2013 donated a wheeled harvester and forwarder laptop simulator that is being used for training, data collection and research by a forestry PhD student. Bell Equipment has a well-established history of partnering with NMU to provide support and funding for research and various educational purposes.

Ramanstwana says it is essential for institutes of higher learning to build and maintain good relationships with key stakeholders such as Bell Equipment and John Deere.

Ellepots South Africa aims to be the partner of choice for propagators in the region. With that, comes the responsibility of being able to provide a fast and reliable service and next-day delivery of spare parts. “Being local in this global world means everything to our customers,” says Pederson. “Our customers deserve the best, and with Shaun as our partner, we can service a lot of our main segments even faster and better than before with the right attention, knowhow and expertise.”
Bridging the gap between our entry level and high-end mechanisation solutions is the Kobelco SK210LC Excavator carrier matched with the H215E Waratah Head.

Kobelco is a popular and proven choice in the global forestry industry, an environmentally friendly machine with low fuel burn and an efficient design, while the H215E has been specially designed for Eucalyptus plantations to deliver the lowest fibre damage, at the lowest cost.

Bell Equipment – matching the best of the best for optimised forestry mechanisation.
The digitalisation of the road network is often thought of as something related to main roads alone. The forestry sector, however, is also interested in the road network outside main roads, and road conditions will be monitored in many ways in the future.

A recent article in the Finnish Forest Association’s newsletter, has highlighted how technology can be incorporated to ascertain the condition of roads.

According to the article, the rise of telematics and mobile technology makes it easy to collect data on road conditions, with a relatively simple software application, which can even use machine vision software to calculate the road width, the state of the undergrowth alongside the road, the condition of traffic signs, and even the presence of stones, gravel or sand on the road.

According to senior research scientist at the Metsäteho research and development company, Pirjo Venäläinen, the video will even show stones with a diameter of just three centimetres.

The correct software of smartphone application should even be able to provide data on how even the road is, and thanks to GPS technology, all accumulated data can be automatically transmitted onto digital maps.

According to Venäläinen, there are several projects already running in Finland to collect road data, but not many of these projects actually collect data on minor roads, private roads or forestry roads.

Metsäteho says that free access to such information would be ideal as the data would not only be relevant for the forestry sector, but also for passenger and goods traffic and agricultural traffic.

And mobile technology is just one of the tools available for the collection of such data. One can even make use of lazer scanners attached to trucks.

In Finland, data on road conditions are collected in numerous ways including by means of satallites, aerial photography and remote controlled drones.

“We also study data from the truck itself, such as the use of brakes and the ABS system. And we use smart tyres that collect data,” says Venäläinen.

Still, all data is useless unless it is moved on for further use or processing. Real-time data can be sent on to other road users immediately – about animals on the road, for example.

A larger project will be to create a service platform where data from different sources is brought together and collated. This has been under construction at the Finnish Forest Centre for the past year.
Thus far, we have interviewed possible users of the platform. The technical specifications will be completed this year,” says Seppo Niskanen, Chief of Business at the Forest Centre.

The platform will monitor data quality, and also collate and ultimately publish it. Collating the data from different sources brings the greatest benefits, but is also a lot of work. "One of the biggest challenges is standardising the data," says Niskanen.

The platform would be accessible to all road users, but also to those who maintain the road. It would show, for example, what types of vehicles have access to a road during normal conditions or the wet season, where snow removal is needed or where a culvert might have to be repaired.

"Of course, the suspicion has been voiced that the studies are actually about monitoring the performance of the drivers, but it has been easy to dispel that thanks to the technical solutions adopted. You don’t, for instance, have to transmit all data real-time, but can collect a bigger batch and send it on at intervals,” says Venäläinen.

Collecting and sending on the data should be automatic, so that there is no additional need for the driver to key in anything. Another question to resolve is what data will be published anonymously and the extent to which the data collector can decide about access to it.

“These are important issues. We plan to set up a special task group to deliberate the rules for using vehicle data,” says Venäläinen. Data protection also interests companies and the managers of private roads.

On the other hand, the need for road data is understood everywhere. One of the contributing factors is climate change, which is likely to make road conditions more variable.

Niskanen anticipates that the new platform will be operational in Finland by the beginning of 2020.

- Source: Finnish Forest Association
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With more than 11 million units sold worldwide, the BPW drum brake is the embodiment benchmark of a reliable brake for towed vehicles. It sets new standards for lifecycle costs thanks to its robust construction and ease of servicing through the ECO principle.
Biorefinery facility to address biomass waste challenges, boost industry competitiveness

The R37.5-million Biorefinery Industry Development Facility (BIDF) was launched at the Council for Scientific and Industrial Research (CSIR) campus in Durban in March and is set to extract maximum value from biomass waste.

The facility, which is a first for South Africa, will support innovation in a range of industries, including forestry, agro processing and other biomass-based industries.

The initial focus of the BIDF is the forestry sector and technology innovations have been earmarked to help prevent job losses and enable growth in this sector.

Biorefinery in South Africa’s pulp and paper industry is practiced on a very limited scale. Wood, pulp and paper waste ends up in landfill sites or is burnt, stockpiled or even pumped out to sea. The potential to extract value from it, is not realised, which means lost opportunities for the country’s economy.

Additionally, the country is running out of landfill space. High-value speciality chemicals can be extracted from sawmill and dust shavings, while mill sludge can be converted into nanocrystalline cellulose, biopolymers and biogas.

The facility is the third Industry Innovation Partnership Fund (IIPF) initiative to be launched by the government’s CSIR. The other two are the Biomanufacturing Industry Development Centre and the Nanomaterials Industrial Development Facility. The purpose of the IIPF is to support research and development programmes that enhance industry competitiveness.

Speaking at the launch, the Minister of Science and Technology, Mmamoloko Kubayi-Ngubane, said a ministerial review report highlighted several challenges that impeded the growth and strengthening of the country’s national system of innovation, one of which was low levels of investments in research and development by the private sector.

“A key recommendation of the report was for government to put in place effective measures and mechanisms to attract the private sector to invest in research and development and innovation (RDI),” she said.

The minister explained that the industry partnership fund is a response to those recommendations and the key objective is to leverage industry investment in RDI by stimulating increased co-funding and participation by industry players in projects to maintain and increase their export market share and mitigate under-
spending in technology and innovation in identified niche or strategic sectors in the South African economy.

“A key long-term outcomes measure would be increased sector contribution to the GDP through stronger RDI-based industrial development,” said the minister; adding that the fund should support initiatives, such as satellite development and manufacturing and titanium powder development, among others.

Talking about the need for science to support industrial development, CSIR CEO, Dr Thulani Dlamini said making South Africa more competitive was at the heart of the CSIR.

“Our mandate requires us to use science and technology to contribute to scientific and industrial development, which will improve the competitiveness of the South African industry and also create new industries. The CSIR is using innovation to contribute to economic growth and thus assisting in the fight against poverty, inequality and unemployment,” he said.

Prof Bruce Sithole, CSIR manager for forestry products, emphasised the potential of the BIDF to be of service to other sectors, for example, exploring the use of chicken feathers in high-value products.

Small quantities of waste chicken feathers are processed into feed for livestock, but the majority of the waste is traditionally disposed of by burning or landfilling. However, the BIDF is demonstrating that keratin can be successfully extracted from the poultry by-product to be used in high-value applications, such as nanostructured materials for biomedical applications.

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The BIDF is accessible to large industry and small, medium and micro-sized enterprises (SMMEs) for their research and development, analytical and pilot scale testing, evaluation, processing and development of technologies for processing biomass. Some of the equipment at the BIDF is unique in South Africa.

The facility is home to highly-skilled chemists, engineers and biologists who are well-versed in technologies for beneficiation and valorisation of biomass, “said Sithole.

Significant investments are being made to develop the human capital required to support the sector. The CSIR has partnered with the University of KwaZulu-Natal to develop the required skills and expertise that will enable and promote biorefinery technologies in South Africa.

Jane Molony, Executive Director of the Pulp and Paper Manufacturing Association of South Africa, expressed confidence in the potential of the facility to make a meaningful contribution to the sector and the South African economy.
RF Gevers (PTY) Ltd: continual investment to exceed industry standards

The RF Gevers Sawmill, situated just outside Vryheid in KwaZulu-Natal, is set to have a very busy 2018 indeed, with massive investments being made in terms of upgrading and modernising the entire operation.

And if one looks at their sales figures since the last quarter of last year, and even going into 2018, the management team at RF Gevers Sawmill is obviously confident that their investments into upgrades and new machinery at the mill will pay off.

According to sawmill manager, Kelvin Bland, the top management team at RF Gevers is a very proactive one, continually reinvesting into the mill in order to streamline efficiency and ensure that the company remains on the cutting edge of the sawmilling industry.

Recent upgrades at the sawmill include a new Weinig Grecon Ultra TT fingerjointing line and a new VK debarker. 2018 will also see the company investing in a brand new sawmill line in the form of a Mill Industries 6.6 G-Force system as well as a new EWD framesaw carriage, to name but a few.

These upgrades will also see the company’s sawmill buildings expanded in order to make room for some of the new equipment.

According to Bland, the new Mill Industries sawmill system will enable them to eliminate a lot of waste and process shorter logs, with improved recoveries which previously would have stayed behind in the forest, before putting the processed planks through the Grecon fingerjointer.

“We are constantly looking at ways in which we can improve our work flow, efficiency, and output quality,” says Bland. “We believe that quality should always triumph over quantity and our top management team has proven themselves to be very open to investing money in these machines and systems to ensure we uphold our hard earned good reputation within the industry.”

The entire process, from short haul transport from the plantations, right through to the dispatching of orders is well streamlined and very effective. According
Sawmill

to Bland, the only process that they do not take upon themselves, is major deliveries, for which they use transport contractors.

The company grows around 80% of the timber processed at the sawmill, and buys in the other 20%. “Even though we have a lot of timber in our plantations, we do have enough production capacity to be able to buy in more timber. Therefore, if the price and quality of timber offered for sale meet our requirements, we will seriously consider buying in more.”

And with pine being a slow growing tree, needing anything between 18 and 40 years to mature enough to be used as sawn timber, and the fact that there is a looming log shortfall on the horizon, this is a good approach to follow.

Bland says that the company is serious about efficiency and that, with the new debarker and small log line, they will be able to improve recovery rates significantly. Add to that the much increased recovery rate afforded by new fingerjointing line, they have seen significant improvements in recovery rates.

“We are one of the few sawmills in the country with such an extensive recovery measuring system,” says Bland. Recovery rates are measured hourly, daily, weekly and monthly along every step of the production process, and the data is then used to spot areas where recovery rates can be improved.

Sawshop

One of the key steps in ensuring that your recovery rate is as good as it can be, is to ensure that saws and sawblades are maintained correctly. This is done in...
RF Gevers’ state of the art sawshop, where three highly trained staff members working directly under Bland himself ensure that every blade is optimally maintained and efficiently sharpened.

With the purchase of the Grecon fingerjointing line in July of last year, the company also purchased a new Lakfam profile sharpener to ensure that the profile cuts on the Weinig Ultra TT fingerjointing line remains as good as it can be.

**Fingerjointing line**

According to Bland, the acquisition of a Weinig Grecon Ultra TT fingerjointing line has massively expanded the company’s capacity by eliminating a significant amount of waste and allowing the company to expand its range to include any length of timber that their clients may need.

“Whereas before there was wastage on a massive scale, both in the plantation and in the factory, we are now not limited in the length of timber that we can process,” says Bland. “We are able to utilize offcuts and as short logs which used to stay behind in the forest in the production of fingerjointed planks, which have been selling well in both the KwaZulu-Natal, as well as the Gauteng markets.”

Bland adds that he was a little sceptical of the new line at first as he had done the basics of fingerjointing 25 years previously during his studies, but has had very limited experience in the field since.

“But I was pleasantly surprised at the ease of the install as well as at the ease of operating the equipment,” he says.

“We were initially told that there was no real market for fingerjointed timber in the region, but our sales have picked up nicely and the fingerjointed material now accounts for approximately 3% of our total sales.

“The fact is that the fingerjointing line has, in addition to letting us add to our product portfolio, helped us make some massive savings. Firstly, we don’t have as much of a problem with offcuts anymore as we can fingerjoint them and sell them as black cross.

“Secondly, we have much less of a problem with shorter logs, as we can fingerjoint them and, with the relevant treatment, sell them to the structural timber industry.

“This has resulted in us needing much less storage space for all the shorts and has even amounted to savings in terms of having a forklift transport the offcuts to a heap for storage.”
The Weinig Ultra TT fingerjointing line is manually fed, after which the front ends of the timber pieces are automatically aligned and rectangularly cut on the finger jointing package shaper, automatically rotated and then realigned with the fingerjointing package shaper.

After the second cutting process, the timber automatically moves through the glue application system, which applies the glue in the set dosage to the profiled pieces, after which the profiled and glued timber pieces are fed into the hydraulic press, and then cut to size.

The system is capable of handling up to 40 cubic meters per shift.

“This system has, in addition to allowing us to adopt a much more versatile product range and effectively deal with a lot of what otherwise would have been waste, contributed significantly to our sales figures,” says Bland.

New VK debarker
RF Gevers has recently invested in a new Valon Kone VK 26 SMX SL debarker which has taken the place of their old debarker in addition to sporting a high enough capacity to handle the infeed line for their planned new short log Mill line.

“The new debarker is four times faster than our old debarker,” says Bland, adding that they have been running the VK at minimum speed and are still significantly exceeding expectations. “This means that we don’t have to add another debarker for the new line when we install it toward the end of July.”

When asked why the company settled on the VK specifically, Bland says that the company is adamant about using mainly European machinery wherever possible. “In addition to the proud German heritage of the Gevers family, when it comes to machinery, one has to revert to the old Ford vs Mercedes analogy,” he says.
"The fact is the Ford probably is much cheaper than the Mercedes, and while it runs well, you will never get the kind of performance and longevity out of the Ford that you would out of the Mercedes."

The new VK 26 SMX SL debarker sports automatic centering both vertically and horizontally, resulting in minimal fibre loss, with an infeed conveyor guiding the logs smoothly between the eight feedrolls, which was specifically designed to handle short logs.

The feedrolls themselves can be fitted with replaceable FibreMax inserts, and the replaceable carbide inserts come in various shapes and patterns, depending on the timber you are processing and the season. This greatly eases maintenance of the debarker and offers better grip on the logs, which once again means greatly lessened fibre loss.

Each pair of feedrolls also has its own hydraulic pressure system with pressure accumulator which allows the holding level of the feedroll to be adjusted by a separate pump unit.

"The debarking function is critical to the rest of the sawmilling operation," says Bland, "as a hiccup or bottleneck in the infeed line to the mill causes disruptions to entire rest of the operation.

"The VK has allowed us to totally eliminate stoppages on the infeed line, meaning that the rest of the operation runs smoothly, and without any delay."
White River’s Capio Lumber sawmill bought a Wood-Mizer Titan EG800 board edger to boost its recovery of structural timber for the construction industry.

When the sawmill was established in 2012 by Bruce Moxham and Ross Scorgie they decided that Wood-Mizer’s range of modular equipment would be the ideal technologies to deliver the quality products their customers needed.

Prior to buying the new machine, Capio Lumber used its Wood-Mizer LT70s and LT20 breakdown machines to rip the logs into blocks and sideboards. A Wood-Mizer HR500 double-head resaw split the blocks into two or three end-spec boards while the side boards were recovered on three Wood-Mizer HR200s and a Wood-Mizer EG300 edger.

With this set up Moxham says the mill achieved an output of about 60 cubic metres, depending on log size, and total recovery averaged 60%.

"Despite the numbers, we knew that we could streamline the process and improve overall productivity," says Moxham.

"We had to turn the log through four sides to get the blocks, which slowed us down. On average each log turn produced two sideboards. To move the sideboards to recovery was labour intensive and required material handling systems. It created bottlenecks on the mill floor and at recovery. We also recovered lower quality material that sold for less. To make the overall process more streamlined, we had to address all these issues"

The introduction of the EG800 has solved most of these problems. The EG800 can rip material up to 120mm thick with a multi-blade arbour, which simplifies the primary break down process significantly and allows the sawmill to change its cutting patterns to optimise their raw materials.

A top and bottom cut on the break down saw produces two-sided cants that are either sent directly to the new board edger and then to the double head resaw, or the cant is processed, and the boards pass through the board edger with end-spec boards exiting.

"One of the most important benefits of the EG800 has been a more streamlined material flow," says Moxham. "Previously, material and material handling systems criss-crossed which made the mill very busy and slow. The stop-start process and our inability to find clear channels that could make the mill more productive, placed a ceiling on further expansion.

"Looking at the final numbers, recovery and output has stayed pretty much the same, but we’ve managed to recover more brandering, which is a good seller. The machine has unlocked a more streamlined material flow that has opened the clear channels we need to now take production to the next level."

The commissioning of the Wood-Mizer EG800 and the simplified primary break down process at Capio Lumber has increased the speed of production, while reducing wear and tear and energy costs.

Capio Lumber upgrades its mill to increase efficiencies
Wood-Mizer TITAN EG800 Board Edger

A robust edging and ripping solution for small to medium sized sawmills.

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Research conducted by Prof Martina Meincken at Stellenbosch University indicates that there is considerable scope for cellulose nano-crystals (CNC) production from acacia species for the high value electronics market in South Africa.

These crystals are highly processed, uniform cellulose blocks with a variety of desirable mechanical, chemical, physical and electronic properties. Their use ranges from reinforcement particles, to building blocks in electronic components, which constitutes significant value adding that justifies the high processing costs. "Nano", with the symbol n is a unit prefix meaning one billionth, or $10^{-9}$ and is used for measurements of time and length.

Meincken says the CNC market is not well developed in South Africa, where predominantly cellulose nano-fibrils that are obtained through pulping are manufactured as filler particles or absorbents.

"The term nanocellulose refers to uniformly sized cellulose sections obtained from natural cellulose and includes cellulose nano-fibrils (CNF) and nano-crystals. The difference is largely the size and the production method."

CNFs are shaped like spaghetti, while CNCs are rather like rice corns," explains Meincken.

CNFs are produced through mechanical or chemical pulping processes that results in a wide size distribution. In the first step the cellulose is isolated from the wood and in a second step, the nano-fibrils are separated and somewhat reduced in length.

Figure 1: Wood is milled, cellulose is isolated and CNCs are synthesised from the cellulose

CNFs are 5-20nm in diameter and several micrometres ($\mu$m) long. CNCs are shorter and more uniform in size. They are prepared through acid hydrolysis, which cuts the cellulose chains into short, highly crystalline and rigid particles of a few nanometres diameter and a few 100nm length.

Figure 2: SEM image of several CNCs and AFM images of individual CNCs

The high aspect ratio of nano-cellulose, together with its mechanical strength makes it an ideal reinforcement material. Nano-cellulose has a tensile strength similar to aluminium (around 500MPa) and a stiffness similar to kevlar (150 - 200GPa), which makes it superior to glass fibre.

Nano-cellulose from invasive trees can stimulate the local electronics industry

Typically, CNFs are 5-20nm in diameter and several micrometres ($\mu$m) long. CNCs are shorter and more uniform in size. They are prepared through acid hydrolysis, which cuts the cellulose chains into short, highly crystalline and rigid particles of a few nanometres diameter and a few 100nm length.

Figure 2: SEM image of several CNCs and AFM images of individual CNCs
Unlike glass fibre, nano-cellulose is organic and recyclable and due to its superior properties, it is possible to develop lighter components with the same mechanical properties. Nano-cellulose is very hydrophilic which facilitates use in the medical sector as a carrier material, or in the hygiene sector as a water absorbent material, and its good thermal stability allows it to be used in electronic devices and insulation materials,” says Meincken.

The properties of CNCs do not only depend on the production method, but also on the cellulose origin. “We analysed the properties of CNCs synthesised via acid hydrolysis from pine (softwood), eucalyptus (hardwood) and acacia (hardwood) wood and compared them with the properties of CNCs synthesised from commercial α-cellulose, of which the origin is unfortunately not disclosed by the manufacturer,” explains Meincken.

“Pine was included in the study as a direct comparison with the commercial α-cellulose, which presumably originates from softwood species. The main focus was, however, on the CNCs obtained from invasive wood species, such as eucalyptus and acacia. In this case, we isolated cellulose from *P. radiata*, *E. gomphocephala* and *A. cyclops*.”

The yield was determined as a weight percentage of the original α-cellulose amount, the crystallinity index was determined via X-Ray diffraction, the length was determined from scanning electron micrographs (SEMs), the diameter from images acquired with atomic force microscopy and the thermal behaviour was determined with differential scanning calorimetry.

The properties of all four CNC types are listed in table 1.

<table>
<thead>
<tr>
<th></th>
<th>Commercial</th>
<th>Pine</th>
<th>Eucalyptus</th>
<th>Acacia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. CNC yield (%)</td>
<td>31</td>
<td>27</td>
<td>24</td>
<td>35</td>
</tr>
<tr>
<td>Crystallinity index (%)</td>
<td>72</td>
<td>77</td>
<td>75</td>
<td>79</td>
</tr>
<tr>
<td>Av. length (nm)</td>
<td>183</td>
<td>176</td>
<td>179</td>
<td>131</td>
</tr>
<tr>
<td>Av. diameter (nm)</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Av. aspect ratio</td>
<td>45</td>
<td>58</td>
<td>36</td>
<td>26</td>
</tr>
<tr>
<td>Melting temperature (°C)</td>
<td>210</td>
<td>242</td>
<td>230</td>
<td>237</td>
</tr>
</tbody>
</table>

It is apparent that the CNCs from all three wood species compared well with those synthesised from commercial cellulose and in some cases even outperformed them. All CNCs isolated from South African wood had a higher crystallinity index and a higher thermal stability than CNCs from commercial cellulose. The particle dimensions were comparable, apart from acacia, which formed shorter CNCs with a lower aspect ratio.

Although CNCs synthesised from acacia are not best suited for reinforcement materials, they are well suited for materials where the chemical or electronic properties of cellulose are important.

“This means their high crystallinity makes them ideal for any electronic use where an ordered, crystalline structure is needed similar to, for example, graphite sheets where electricity should only be conducted in one way.”

Meincken says there is a huge capacity for new ideas and especially for start-up businesses to develop this hi-tech manufacturing industry further. Unfortunately due to the costly processing of CNCs and the lack or research funding no further investigations can take place at the moment.

“Although the chemical production of CNCs is more time-consuming and costly and results in lower yields, it allows for highly value-added end-products. CNCs produced in this way are transparent and can be used to produce flexible, transparent films, used in electronic devices, such as printed electronic components, solar cells, or screens.”

The properties of CNCs from different cellulose sources

Although CNCs synthesised from acacia are not best suited for reinforcement materials, they are well suited for materials where the chemical or electronic properties of cellulose are important.

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Meincken says there is a huge capacity for new ideas and especially for start-up businesses to develop this hi-tech manufacturing industry further. Unfortunately due to the costly processing of CNCs and the lack or research funding no further investigations can take place at the moment.
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Do not use illegal structural timber: it is unsafe and bad for business

Despite advice and educational information from organisations like the ITC-SA, and NHBRC as well as the suppliers, manufacturers, retailers and wholesalers of structural timber, somehow the use of unsafe structural timber persists.

“We seem to have groups of ‘competent carpenters’ who are contracted to erect roofs using bolts and nails,” remarks Mike Newham, a professional structural engineer with more than 40 years of experience in the structural timber industry.

“It is becoming increasingly common to drive past new homes and residential complexes and see roofs that are beginning to sag or slowly buckle because non-compliant structural material has been used. In most cases the home owner does not know, or even worse, has deliberately opted for the cheaper, site-made trusses alternative,” he says.

The roof structure is one of the most visible and important construction elements of a building and is also one of the largest, heaviest and most costly structural components in any build. Sadly, many building owners choose price over quality with regards to both workmanship and materials, which can lead to costly, disastrous and sometimes even life-threatening situations.

Yes, there is a lot of red tape involved in the process of designing, fabricating and erecting a building, but this red tape is very necessary. It protects everyone who participates in the process including the building owner.

Amanda Obbes, national coordinator of the Institute for Timber Construction Southern Africa (ITC-SA) reports that internal investigation and findings by the ITC-SA confirm that 90% of hand-/site-made trusses do not comply with building regulations and standards governing material and design specifications.

“Our research suggests that hand-/site-made timber roof trusses are on average up to 20% more expensive than pre-manufactured timber roof trusses. Many consumers try to save on the roof construction and often end up spending more time remedying the consequences that arise from using sub-standard materials and workmanship,” says Obbes.

Newham describes a road trip in the Northern Province a few weeks ago, where he saw homes in affluent areas built with what he terms ‘sticks and poles’. “This could be because some municipalities in rural areas do not have enough building control officers available, or maybe the homeowner is a private builder who does not require insurance or a home loan from a bank where he needs to produce certificates of compliance.”
Although professional, knowledgeable and experienced people are more expensive than those who are not qualified, or only have a certificate from a training provider stating that they have completed a course in carpentry, in the long run their competencies save a lot of money and stress.

Pre-fabricated roof trusses come with guarantees in the form of a manufacturing warranty and an engineer’s design certificate, which the owner may call upon to have the roof structure repaired, explains Obbes.

National building regulations require that all structural timber comply with SANS 1783, which covers sawn softwood timber, and national and international manufacturers of structural timber supplied to the South African market must be certified by one of the two South African-based ISO 17065-accredited certification bodies, the SA Bureau of Standards (SABS) and SA Technical Auditing Services (SATAS).

“It is quite common for non-compliant structural timber to be imported and supplied to the local market including to formal roof truss manufacturers without any proof of the integrity of the finger joints, adhesive used, or the grading of the timber,” says Abe Stears, managing director of SATAS.

“When a batch of non-compliant imported timber is rejected by a buyer, that timber is often simply sold on to another unsuspecting buyer. In this way, non-compliant imported timber for structural applications may still find its way into the South African market,” Stears says.

Sawmilling SA’s Roy Southey comments that from a sawmillers perspective the continuing slow development of the construction sector has resulted in a decline in demand and there is presently an oversupply of structural pine. He agrees with Newham and Stears that it is unfair and unacceptable to expect manufacturers to comply at a cost with the requirements to ensure that a quality product is supplied to the end user, while non-compliant local and imported timber is allowed to be used in structural components.

ITC-SA proactively looks for ways to reach out to people involved at any level in the construction sector and to find ways to assist them to improve their knowledge and understanding and qualifications. It continually strives to increase its membership in order to broaden the regulation of the industry.

Part of the organisation’s mandate is to boost skills training and development in the sector. It has recently launched a unique online course targeted specifically at roof erectors. The course is designed to accommodate working professionals who do not have time during working hours to attend theory classes. It also has an essential practical component where students are trained on site in the A19 inspectorate process.
South Africa’s Sunday evening investigative television show, Carte Blanche, recently focused on the financial and emotional devastation left in the wake of shoddy and illegal timber frame building practices.

“The benefits of timber construction are numerous and bring great value to any construction project,” says Werner Slabbert Jnr, a director of the Institute for Timber Construction South Africa (ITC-SA).

“But stories such as the one aired on Carte Blanche and the level of workmanship exposed, for which the contractor failed to take any responsibility, are a blight on the reputation of the timber and general construction sector in South Africa. It impacts negatively on the many contractors who do their work ethically and above board; and goes a long way to fuel mistrust in our industry and in the tools we use to do our work,” comments Slabbert.

“It is distressing to hear about shoddy workmanship in the industry, and for it to be presented in a recent Carte Blanche episode exposing the severe malpractice of a local contractor in delivering modular timber structures to clients who expected to receive beautiful timber homes carrying all the benefits of building with timber. Instead, in the various cases presented, the structures were either not safe for occupation, badly incomplete, not delivered at all or had to be condemned and sometimes even demolished,” he says.

Beware of the cheap brigade

“While every type of construction trade has its unscrupulous builders and ‘fly-by-nights’, the timber construction sector must work double-time to guard its reputation due to misconceptions around the material and a lack of awareness with some aspects of the trade and general public around its suitability for a host of construction applications.”

While the outcomes for the plaintiffs, resulting from the contractor’s inferior workmanship and business ethics to match, were distressing, they represent a sobering learning opportunity for both the trade and consumer. In one example, the house plans had been approved and the engineer had signed off on these, but the structure was not built accordingly or in line with National Building Regulations.

Engineers have responsibilities

“When built to standard (SANS 10082), a timber frame structure is as safe, strong and durable as any other structure. This has to reflect in the actual construction and the plans. Intent to build correctly has no bearing on the final product. In this case, the engineer admitted that he had signed off without reviewing the corrected work and subsequently withdrew his certificate. Once an engineer issues a certificate, it cannot be withdrawn. It is the responsibility of the engineer to inspect and assure structural stability of a structure before it is signed off,” explains Slabbert.

“Structural work should have been reviewed as soon as the floor and wall structures were in place, and corrections should have been duly implemented. This should typically take place around three weeks into the project; if this had been the case, the outcome for the consumer would have been far better. In terms of the Engineering code of conduct, an engineer may only undertake work which their education, training and experience have rendered them competent to perform and which is...
within the category of their registration. The engineer must ensure that any work approved or certified by them has been reviewed or inspected to the extent necessary to confirm the correctness of the approval or certification.”

ITC-SA-registered engineer members are qualified and experienced in timber frame construction and sign a Code of Conduct that commits them to high standards in their products and service delivery. This gives a prospective client the peace of mind that all inspections and certificates are valid, accurate and performed timeously by the correct competent role players.

Amanda Obbes, general manager of the ITC-SA, says there are many misconceptions among some role players about the relevant responsibilities and accountability of each function in the building process. The same is true within the ranks of some professional practitioners and contractors in the built environment about their involvement up to project completion in ensuring the conditions of the regulations are met.

“The municipal building control office relies on the knowledge and integrity of the professional team which designs, oversees and, in the final instance, inspects the structures to ensure conformance to the regulations by issuing a certificate of compliance. It is only once all necessary certificates have been received that an occupational certificate may be issued,” she says.

In tough economic times, it is tempting to make decisions based on pricing. “Don’t go for the cheapest quotes when enlisting the services of a timber frame builder. Timber construction should be seen as an investment and not a cheap alternative. You can bargain on a timber frame home pricing the same as you would on a brick and mortar home built but must realise that anything significantly lower than standard should be treated with caution.”

**A safeguard in timber construction**

Obbes confirms that the projects that went wrong would have seen very different outcomes if an ITC-SA-accredited timber frame builder member had been appointed.

Engaging the services of an unscrupulous timber frame builder opens up many avenues for the consumer to quite literally pay the price for shoddy workmanship. In the event that construction is non-compliant, the project and builder are not registered with the NHBRC and the timber frame builder holds no accreditation with a professional body, like the ITC-SA, the consumer will have no recourse and may have to resort to sourcing and paying for private legal counsel should they wish to pursue the case.

“ITC-SA is a professional body recognised by the South African Qualifications Authority (SAQA). It must fulfil a number of duties to create and maintain standards in the industry through regulating its membership, driving skills development and training, and ensuring its members comply with statutory requirements for professional membership, which can be withdrawn should the...
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member in question be found to be in contravention of the Institute’s Code of Conduct,” Obbes says.

Slabbert points out that the role of the ITC-SA is to ensure consumer protection in the use of timber engineered products in contracts entered into with its members and to regulate their professional conduct. “As devastating as the consequences were for some of the homeowners in this instance, consumer education and research could have been a game-changer. If a client is empowered through education and research prior to embarking on a substantial investment such as this, they would have had the knowledge and confidence to enforce key aspects of the process at the necessary stages and could be instrumental in limiting damages and preserving their finances,” he says.

Consumers should contact the ITC-SA to find out what the correct processes are with timber frame construction so that they can spot any red flags very early on in the project through the A19 inspection process and engineering service. Consumers are urged to empower themselves by doing their homework before they take on any construction project.

“The easiest thing to do is to enlist the services of an ITC-SA-accredited timber frame member and you will have peace of mind and professional indemnity. Always see very low pricing as a red flag. Trust your intuition when something doesn’t feel right and talk to the experts at the ITC-SA who are there to assist consumers in making the right choice when it comes to timber construction,” says Slabbert.

“Timber frame building remains highly competitive in the construction arena and, executed correctly and in line with National Building Regulations, ticks all the boxes for the homeowner and property developer looking for a solid, reliable, sustainable and beautiful building option that lasts.”

SA imported R138,83-million of US hardwood lumber and veneer in 2017

Total imports of American hardwood lumber and veneer to South Africa amounted to R138,83-million for the year 2017, according to a statement issued by the American Hardwood Export Council (Ahec).

The statistics, which have been compiled from the latest data released by the US Department of Agriculture (USDA), reveal an increase of two percent and eight percent respectively in the volume and value of US hardwood lumber exports to South Africa. However, direct shipments of US hardwood veneers to the market did not do so well, falling by 33 percent to R39,97-million.

A closer look at the data released revealed that exports of American hardwood lumber reached an overall value of R98,86-million and a volume of 10,978 cubic meters, increasing year-on-year despite the weakness of the South African rand against the US dollar. As is the case in Australia and New Zealand, South Africa is a white oak dominated market and the species made up 59 percent of the total volume of US hardwood lumber shipped last year.

In addition, American ash was also in demand accounting for close to 22 percent of the total volume of American hardwood lumber exports. Exports of American walnut, despite it being high in price and in great demand internationally, increased by 126 percent (value) and 75 percent (volume).

“The continued strength of the US dollar against the South African rand has certainly made American hardwoods less affordable in the past two to three years, but demand has remained high, as they have become increasingly appreciated by the country’s designers and consumers. This is especially true of white oak, which continued to dominate exports last year, accounting for 59 percent of the total volume shipped.

However, the dominance of white oak has decreased marginally, since importers and end users are starting to become more familiar with a wider range of American hardwood species, comments Roderick Wiles, Ahec’s regional director.
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GWR Roofing rolls out on-the-job mentoring programme

Pinetown-based roofing specialist, GWR Roofing has initiated an on-the-job mentorship programme to give high-potential roofing candidates a leg up into the industry.

“in a field as specialised as roofing, our staff are our most valuable asset and it is a priority for us to develop, train and create opportunities for them to improve their lives and those of their families and at the same time to keep improving the quality of workmanship we offer our clients,” says Andrew Gove, director of the company.

GWR Roofing was established in 2009 with limited resources and four employees. It has grown significantly and is now managed by two directors and boasts a staff complement of approximately 40 employees.

Each GWR Roofing team is fully supervised by their team leader, a qualified carpenter and foreman. Staff members are employed based on their levels of skill and work ethic. All team leaders hold a managerial title in order to promote accountability and pride with each project.

“Limited avenues for training in the roofing and carpentry sectors in South Africa impact on the talent pool that feeds the industry. We decided to implement an in-house training programme to develop our own staff and extend training and mentorship opportunities to high-potential individuals from outside our business who are looking to build a career in the industry,” explains Gove.

One such candidate is Sihle Dikaneng from Newcastle in KZN, who was studying a diploma in engineering. With a firm interest in building a career in the roofing sector, he contacted the Institute for Timber Construction South Africa (ITC-SA), the professional body for the engineered timber construction industry, who put him in touch with GWR Roofing.

“Sihle has since joined one of our teams in a junior capacity, where he will receive training, learn the ropes in a very hands-on way and earn his way up the ranks in our team,” explains Gove. “As part of this apprenticeship, theoretical content derived from Volumes 1 and 2 of the ITC-SA’s Roof Erectors Handbook is taught, on-site training is conducted, and the ITC-SA examinations must be successfully completed. The aim is for Sihle to run his own team on site, installing roofs and having them signed off by an ITC-SA Inspector.”

While Sihle is undergoing training in the theoretical and practical aspects of the roofing trade, he will also receive in-house training in marketing and financial and operational basics to gain a fundamental understanding of how a business operates and how to manage an organisation successfully.

“I believe that through working for GWR Roofing and observing how we operate, we will instill a healthy level of pride in workmanship and, hand-in-hand with the learner, foster a sense of achievement through hard work,” remarks Gove.

A boost for business and industry

Gove asserts that while mentorship certainly carries a measure of altruism, it also comes with many benefits to the host company, which extend to the wider industry.
“Mentorship and training are key social responsibilities for us as a South African company, and they also lend equity to the organisation and brand, and support our own marketing efforts.

Mentorship serves as a dynamic community ‘payback’ that will foster goodwill as GWR Roofing releases reputable, skilled artisans and business owners back into the community. The expectation is that the employee will return to the business world and their community not only with an enhanced skill set, but with the mindset of paying it forward,” he adds.

Gove believes mentorships can help improve the quality and skills level of people doing roof installations and will hopefully put an end to sub-standard workmanship that wastes resources. “By training people in the trade, we can also attract talent to the industry; that is people who have the aptitude to take their trade to the next level and become entrepreneurs. This will benefit the whole value chain, from the truss manufacturers and erectors, to industry associations and, importantly, the consumer.”

Apprenticeships are needed

“While there are many positives associated with private companies, like ours, engaging in mentorship programmes, a formalised apprenticeship programme, with proper engagement from the public sector, is what South Africa needs. There are so many people eager to work as roofers, but a very small minority with the necessary skills and training. On an economic level, a formalised programme could serve to regulate wages in the industry, boost job creation, create an optimal environment for more entrepreneurial activity and even secure sustainable funding for structured mentorships,” he says.

GWR Roofing is passionate about the way it operates and believes that if individuals can onboard values of responsibility and business ethos supported by strong relationships and excellent service, they will thrive commercially and reputationally.

“It is possible for us to build an industry where people can work together as suppliers and service providers and still be competitive. When pricing is no longer the driving factor for winning business, the entire industry and workforce will make gains,” says Gove.

“At GWR Roofing, we believe in building assets that last. By engaging with individuals like Sihle who show great promise, we are committed to building strong foundations in skills training and development for a more robust, well-equipped roofing sector with a sustainable future that holds commercial benefits for all.”

Gordon Gove, GWR Roofing director, is a qualified and experienced training facilitator, assessor and moderator. He says the company is in the process of applying for accreditation to offer the Vocational Certificate, Carpentry and Roof Work at NQF levels 2, 3 and 4.

Individuals who wish to apply for GWR Roofing’s mentorship programme should have a Grade 12 certificate, a good level of English and, ideally, have graduated from a specialised roofing carpentry course or similar. For more information, contact Andrew Gove on andrew@gwr-sa.co.za.
China’s International Furniture Fair and interzum Guangzhou are eye openers

Chinese furniture manufacturers filled 20 halls with high quality furniture at the Chinese International Furniture Fair (CIFF) which was held in Guangzhou in South China in March, and ran concurrently with Interzum Guangzhou.

The Chinese market for furniture is hard to imagine. Based on latest data from the Centre for Industrial Studies, the global furniture consumption is projected to grow by 3.5% by 2018, with the fastest-growing region continuing to be Asia. As a reality check it is interesting to note that according to an analysis of the country’s furniture industry, in September 2017 the total revenue spend of the industry was R1282.5-billion, and with a total profit R70-billion.

Like all countries the industry is largely driven by the sale and rental of real estate, and although this has declined recently, demand for furniture is maintained by the 25-35 years age group, who form 22% of the population of China. The other growth point in the country’s furniture industry is the demand for custom furniture, which achieved a total revenue spend of R40-billion, with a net profit of R4-billion.

Guangzhou is the hub of the country’s furniture manufacturing industry and its industrial areas are characterized by furniture manufacturers, their supplier networks and the machine manufacturers. For Marius and Johan Venter from Quality Bedding in Krugersdorp this was the tenth time they attended the show.

This year Johan brought his 15-year-old son Dewald along to expose him to the international business world. They arrived a few days early so that they could greet their suppliers and visit their factories, and then spent many hours at the show in business meetings. They were on a mission to compare the latest bed making technologies available in China with their experiences in the USA and Europe.

Marius and Johan described the remarkable and unbelievable changes in the city that they have witnessed over a period of ten years. The explosion of modern buildings, city cleaning and greening projects and the...
modernization of the transport systems and the spending power of the middle classes is evident everywhere. Their advice to South Africans who want to do business with Chinese companies is to always try to visit the factory of the supplier and to build a direct relationship to guarantee backup and good service.

Although the furniture makers dominated the show, the remaining 17 halls showcased machines for woodworking, upholstery, mattress making, furniture raw materials and hardware.

A wide range of general and specialised furniture was exhibited, and the suppliers were divided into:

- office furniture
- medical and healthcare furniture
- public and commercial furniture, including school and stadium furniture

Chip hoppers and fuel bins from Joss International

Joss International is a company with a long tradition of designing, manufacturing and steel and steel-based structures for a range of industries, including the local sawmilling industry.

Established in 2004, it is a successful, proudly family-run business with its well-resourced factory located in Albert Falls, Crammond in KwaZulu-Natal. This is the ideal location for Vic Stegen and his team to serve the needs of their clients, which includes Patula Sawmill in Donnybrook, Bracken Timbers in Greytown, and the Tekwani Group’s sawmills in Thornville, Piet Retief and Nomandien.

Joss International and its staff believe in going the extra mile for their customers and thrive on the manufacturing and assembly of chip hoppers and steel structures, both locally and internationally.

Vic Stegen, company director, has been involved in steel production for 38 years. He is well-respected in the industry, and his experience and expertise, work ethic and integrity are the driving force behind the company’s continued excellence.

“At Joss International we take the time to clearly communicate with our clients and ensure that their objectives are met. This is the only way to maintain our relationships and achieve results,” explains Vic.

The company has delivered all over the world, including: the Comoros Islands, Zambia, Madagascar and Mauritius to name but a few. “Wherever your business takes us, and whatever your steel needs are, we look forward to partnering with you.”
The event is Asia’s largest and most comprehensive trade fair for woodworking machinery, furniture materials and interior décor and spanned an exhibition area of 150 000 square metres featuring 1455 exhibitors from 38 countries and regions. According to previous attendees, this year there was an increase in the number of European brands leveraging the "interzum" platform to sell into the China market.

Suppliers have a hard time keeping up with the demand for raw materials such as timber and composite boards and eight countries took advantage of the opportunity to market their materials: Germany, USA, two different pavilions from Canada, Turkey, France, the American Hardwood and Softwood Export Councils, and Malaysia and India.

The show is the work of the German trade fair organiser, Koelnmesse that is responsible for events like Interzum in Cologne, Germany and the China Foreign Trade Centre Group that is responsible for organizing the China Import and Export Fair (also known as the Canton Fair), the largest trade fair in China.
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How many times have you heard “Safety First” or “Everything Starts with Safety”? As a safety professional, it does become challenging at times to know which approach is best for motivating employees to be more safety conscious in the workplace and at home. Why at home? It’s because 70% of all injuries occur at home.

I believe we need to move towards a culture of safety. But what is a Safety Culture exactly? The common definition for culture is that it is a set of common beliefs that are acceptable to a group. But it goes much deeper than this. We recently decided to try to increase the safety consciousness of our staff by involving them on a personal basis in our monthly safety meetings.

I started by posing two questions to each employee at the meetings:

- What does safety mean for you?
- What is a safety culture?

For the first question, the answers were varied and based on their personal beliefs, like not getting hurt. I was impressed with one of the answers which was that safety is “a lifestyle” which started to make me think about the core values of a person. For the second question, I was surprised that most of the employees didn’t know what a safety culture was, and that their concept of a safety culture was to, for example, wear their hard hats.

I did receive a lot a positive feedback but there was also a backlash from some employees who didn’t like to be singled out in front of the group and preferred being quiet and not participating.

I do understand that not everyone is comfortable with speaking in front of a group, but I believe that in order to improve as a person, you must be placed outside of your comfort zone.

My definition of a safety culture is: “A set of shared core values of a group of individuals who believe that safety is more than work, home or lifestyle; it’s part of who we are.”

The following month I decided to pursue the same format in our safety meetings. The two questions asked this time were:

- What are you doing now to contribute to safety?
- What are you willing to do for the next month to improve safety on site?

Obviously, these questions were more challenging and required some introspection. For the first question, just like the previous month, I received a wide range of answers, from picking objects up off the ground to ensuring that their fellow worker locks out properly during cleaning and maintenance.

When it came to the second question, the employees found it difficult to give an answer. I helped them by describing my personal commitments for the next two months which were to:

- Only look for the positive actions around me
- Observe one employee per day and thank him or her for working safely and tell them the reason why I was thanking them.

Once I mentioned my own pledges, it encouraged others to provide their own personal commitments in order to improve safety at our workplace.

As you can see, safety isn’t as easy as replacing a bolt or putting on a safety guard. It involves dealing with people. I wish I can say that all staff accepted this new approach, however there has been an improvement and I believe it is because a number of people embraced the approach that safety comes from within each and every one of us.

Graphic from: https://pplassociation.org/Assets/img/Uploads/Safety-PPI-Association.jpeg

SAFETY FIRST: EASIER SAID THAN DONE

By Christian Fournier, Certified Health & Safety Consultant at Fornebu Lumber, Canada
The FX Group’s team travelled to Guangzhou to meet with their joint venture partners in the new machinery business FOMA Southern Africa. In addition, extensive meetings were held with various suppliers and exhibitors during Interzum Guangzhou. “We take every opportunity to build and maintain our relationships with our partners, and international trade shows provide an excellent opportunity for networking and exploring new technologies,” says Mohamed Berra.

Taking a breather for a welcome glass of green tea were, FOMA Southern Africa SA’s director Roddy Payne, The FX Group’s production manager Chris Wright, chief financial officer Krish Naidoo, production manager Granville Ashburner, CEO and owner Mohamed Berra, director Abdul Bera and Constance Wu and Wang Kun from FOMA Southern Africa.
Volker Teske looks to the future as it celebrates 40th anniversary

Celebrating its 40th anniversary in 2018, local manufacturer and reconditioner of woodworking machines, Volker Teske (VT) is looking toward the future rather than the past, with a new proactive approach that has already borne fruit in 2018, despite tough economic times facing the industry.

According to newly appointed VT director Ingo Teske, he is systematically increasing his role at the company, taking over many of the key functions held by his mother, Helga. Before coming to South Africa she absolved her apprenticeship and mastership in carpentry in Germany, and helped her late husband found the company in 1978 and took it over after the passing of Volker in 1990.

“I want to continue the legacy of both my parents, who have in the last 40 years become stalwarts of the South African woodworking and woodworking machinery industry,” says Ingo. “And the best way in which to do that, is to renew and strengthen the company’s focus on quality, efficiency, and growth.”

To this end, Ingo has planned and started implementing a number of initiatives to achieve his goals, including hiring a business coach, reviving the Arminius Tooling brand for which Volker Teske holds the agency in South Africa, taking a more proactive approach by personally attending client visits and helping to assess their needs, and increasing the staff compliment to maximise efficiency and expand the company’s service offerings.

New staff members include an experienced and knowledgeable factory manager, a new welder, and administrative office staff, with plans afoot to expand the technical service staff compliment as well.

In addition to new hires, Ingo has also undertaken to upskill existing staff with short courses and additional in-house training.

“Volker Teske is and will always be a family owned and run business,” he says. “And I firmly believe that staff is, by extension, part of the family. Our staff has served us well and our way of looking after our staff is through further training and development.”
"This in turn will help us achieve our goals of continually ensuring that the quality of our work is top notch, our turnaround times are as short as they can be, and our efficiency and productivity are at optimum levels."

The factory’s three main departments, the production line, where the focus is on the production of new machines and other products, the refurbishment line, where used machines are refurbished, both for clients and as sales stock, and the service department, where a wide range of woodworking machines are serviced and repaired, either on site or at the factory depending on the size and scope of the job, are all being overhauled to ensure maximum efficiency.

According to Ingo one of the biggest challenges in this regard is developing and perfecting the inner workings of the different departments as efficiently as possible without interrupting existing work schedules.

**Production**

The production department specialises in the manufacture of rotary lamination machines - for which the company has become quite famous as the only manufacturer of these machines on the continent -, A-frame lamination machines, heavy duty sash clamps, carcass presses, clamping tables, and a number of smaller components including pneumatic bobbins, universal band saw guides, various fences for circular saws, spindle moulders, and safety equipment for machines.

And according to Ingo, he sees a bright future for manufacturing in South Africa. "Despite the obvious challenges, which include an economy which is very reactive to the political situation in the country, there is great demand out there for our locally manufactured machines," he says.

"We have very unique working conditions and environments in South Africa that demand machines built to cater for the skills that are available within the industry workforce.

"I’ve seen many a factory in Europe where the latest in technology is on offer that would simply not work here because we don’t have the skillsets readily available in this country to effectively run those systems."

**Refurbishment**

VT’s refurbishment department specialises in the refurbishment of older machines, mostly of European descent, coming from a time, as Ingo puts it, when machines were built to last a lifetime.

According to Ingo the demand for second hand refurbished machines remains strong in South Africa, specially considering the economy and the hard times that the industry has had to endure in recent years.

"A refurbished machine makes for a much smaller capital layout than a new one does, and many local manufacturers are opting to rather go this route," he says.

"This, coupled with the fact that solid wood seems to be making a comeback of sorts does work in our favour. There are some challenges, like new technologies..."
and companies opting to go the CNC route. But these technologies are very expensive and it is not always possible for companies to upgrade to that extent.

“The refurbished machinery market in South Africa remains strong and despite a projected upick in business, we are still seeing a lot of interest in these machines.”

Chinese machines

Chinese woodworking machinery has been available in South Africa for a number of years, but recently a renewed effort by Chinese machinery manufacturers to secure a foothold in the local market has seen much better quality machines make their mark in the market.

According to Ingo, VT has had a number of Chinese machines through their doors for refurbishment or services.

“While there is no doubt that Chinese machinery is making an impact on the industry and in some cases, even starting to pose a threat to the traditional European machines, their remain concerns about the quality of many of the Chinese made machines,” he says.

“There is no way to avoid the Chinese machines as they are definitely making an impact on the market, and some of the prominent European manufacturers are even opting to have their machines manufactured in China.

“But the fact remains that there still is a lot of inferior machinery emanating from China. Common issues are thinner material being used to manufacture these machines, resulting in increased breakage and diminishing sturdiness of the machines.”

“We’ve even had a Chinese machine where the main shaft through the motor has snapped - a problem I’ve never encountered in any European machine before.

“But at the same time, we’ve seen some very good Chinese machines as well. One thing worth noting is that we have often encountered that, after we have repared it, a machine that broke after a few months of use will then run for many years still without any further major repairs.

“Sometimes you just have to know where the weak points are and give an extra portion of tender loving care.”

Expansion plans

Part of VT’s plan to grow and at the same time increase productivity, quality, and overall efficiency is the hiring of new staff and the further development of existing staff.

A noteworthy insight gained during Ingo’s recent travels, where he spent some time visiting with clients and assessing their needs, he has identified an additional service that he is slowly but surely rolling out.

“One thing that I noticed is that while speaking to clients the last few months, is the absence in the local woodworking industry, of preventative maintenance on machines,” he says. "We’ve had many call-outs for repairs to machines that could have been prevented if there were preventative maintenance plans in place.

“Waiting for a machine to break is definitely not the ideal option for woodworkers as it takes additional expense and more importantly, time, during which production frequently comes to a complete standstill while the machine is being fixed.

“The issue becomes even bigger when one has to wait for a part, or make a new part in order to fix the machines. A preventative maintenance plan can save the woodworker a great deal of expense and time and to this end I am working on a new service, where we implement preventative maintenance contracts to our clients.
New edge banding glue performs like PUR, and can stay in gluepot for up to 24 hours

Where end-use involves hot or steamy conditions such as those found in bathrooms and kitchens, there is nothing to beat a PUR adhesive for prevention of water ingress or peeling of edge bonded panels. However, the extensive cleaning operations after use has tended to place PUR out of contention for smaller manufacturers that don’t need to run their edge banding machines continuously.

Kleiberit has come to the rescue with an innovative polyurethane formulation that can be used, left in the melting pot and re-used up to 24 hours later.

“We have introduced two new polyolefin co-polymers that are a step up from EVAs in terms of performance. However, there is no substitute for a PUR adhesive, and this is where we have been doing a lot of development. We know there is resistance in the market to PUR from smaller users. We have formulated a brand new PUR because we want to help small and midsize companies to benefit from the increased product quality it provides,” explains Kleiberit’s Wolfgang Hormuth.

“Our newest offering in the polyurethane area is 707.6.40, a natural coloured PUR, and 707.6.41, a white PUR. What’s different about them? This new PUR lets the manufacturer keep it in the melting pot for up to 24 hours without having to clean the rollers and the melting pot. If a small or medium size company consumes only half of the glue in the melting pot, they can switch off the machine without cleaning or dumping the remaining adhesive. A couple of hours later, or even the next day, they can switch on the machine and run it exactly as they did before. The glue will perform just the same.

“The great thing about this product is that once it has cross-linked it will have the same performance as standard PUR. That means heat stability of up to 150°C and very good water and steam resistance. It will perform exactly like a PUR, so you can almost run the handling like a thermoplastic product and still enjoy the properties of a polyurethane product.”

Kleiberit 707.6.40 and the white version, Kleiberit 707.6.41, promise excellent green strength with no
What do you expect from your adhesive supplier? Products that meet your needs? Definitely. Prompt delivery when you need it? Certainly. Advice on the most appropriate products for your processes? Possibly. Technical back-up to help you improve your products? Definitely. So, how about specially formulated products that have been modified to suit your specific needs and processes? Kleiberit says this is all part of its service.

The company recently exhibited at two huge furniture and interior design trade shows, ZOW in Cologne, Germany and Interzum in Guangzhou, China.

“As an adhesive specialist, our focus is on the processes of tomorrow,” explained Wolfgang Hormuth, industrial adhesive business manager for Kleiberit. “We use exhibitions like ZOW and Interzum to talk to our customers about their specific needs and processes. We believe this to be our biggest strength.

“We don’t pigeon hole our customers. Instead, we focus our attention on the optimum process for your manufacturing line. We want to know about your products, the machinery used, where the company is situated and the procedures that are already in place. Important in their own right, each answer offers us an insight into your business and allows us to find a solution that fits. And, if this means modifying a glue or adjusting the formula in any way, then this is what we do,” says Hormuth.

Kleiberit’s exhibition stands reflect this approach, with much evidence of extended product lines and customised solutions. They also highlight market trends and key influences in furniture manufacturing, like the growing demand for flat lamination and the use of gloss foils and sheets.

Drawing attention to Kleiberit 709.3 for high-gloss applications, and 711.9 for HPL or materials with uneven surfaces requiring immediate strength, Hormuth says, “We have a series of modifications to fit the different processes, substrates and machines our customers are using when working with high-gloss foils and sheets.

“Another area of interest in this field has been the bonding of LVT, which is the gluing of PVC vinyl flooring onto various substrates like WC Polymer composite or mineraloid materials. You need to be able to guarantee a very good tack and offer an extreme resistance to plasticides. Found in most PVC materials, a glue that is not optimised to cope with plasticides can affect the durability and longevity of your product. ”

Kleiberit believes it is this understanding of their products and the range of materials being used in the market that sets it apart.

Different material characters mean a greater need for different bonding solutions. ZOW and Interzum Guangzhou presented an opportunity to showcase Kleiberit’s comprehensive range of interior and exterior wrapping solutions.

The latest developments within the 702 family have been designed to fit individual processes and a full range of variations in production. Whilst interior wrapping focuses heavily on the aesthetics, with zero glue

stringing as well as very good temperature resistance, running stability and final strength. Moisture, water and steam resistance are what you would expect of a polyurethane product that bonds the edge of the substrate. Both can be used with polyester edges, melamine resin edges, PVC, PP and ABS edges with prepared backing, non-compacted resin paper edges, solid lipping and veneer edges.

In cost terms, Kleiberit 707.6.40 and 707.6.41 sits within the range of a standard polyurethane glue, so you get all the advantages plus a significant time benefit. It’s also available in a range of packaging options that’s designed for smaller users.
New Trends require New Solutions! Specific adhesives for extreme demands

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Kleiberit has bespoke bonding solutions for line and no visible openings at the top of every manufacturer’s wish list, the exterior range emphasises the rigorous testing that’s gone into ensure bonding durability and longevity in the most hostile of weather conditions.

Tested in accordance with German RAL standards, samples are subjected to 70C temperatures and 98% humidity for six weeks. “These conditions accelerate the aging process and test the formula’s strength. Six weeks equates to a minimum of 10 years of use, which gives us every confidence in our products,” explains Hormuth.

Kleiberit has also extended its PUR edging grades thanks to the company’s joint venture with leading machinery producer, SCM. “We regularly work with the biggest machinery producers in the industry and exchange ideas to create new machines and glues that push the boundaries of furniture design,” says Hormuth.

“Most recently, we worked with SCM to create a glue that could bond edging material very quickly, whilst keeping its unique J-shape. By working together, we developed a new grade within the 707 family which helped SCM go on to win a coveted innovation prize at Xylexpo.”

Forward thinking and an innovative approach to the role of adhesives in the manufacturing sector lay behind the development of Kleiberit’s micro emission (ME) products, also on show at ZOW. Available throughout its edging, wrapping and flat laminate ranges, the company’s advancements in micro emission technology is seen as a huge step forward in the development of glues with lower levels of harmful monomers.

“The industry has been keen to reduce the level of chemicals used on its production lines for a number of years, but until now, lessening the chemicals found in glue has been impossible,” says Hormuth. “Our continuous investment and research in this area resulted in the development of the ME range, which provides a reduction in the isocyanate monomers that are found in normal PUR glues, lessening the risk of chemical exposure without reducing performance.

“We have found a solution that has the same level of durability and performance as standard PUR glues but with the added advantage of improving health and safety in the workplace. The industry’s response to this innovation has been strong and we’re continuing to see it grow in popularity.”
Festool’s new TSC 55 plunge saw is available in a cordless option that can be operated with two 18-volt battery packs (36V) for maximum power or one 18-volt battery pack for low weight. With both batteries it operates at the same cutting speed as its corded big brother.

Like the electric version, the cordless unit cuts to a depth of up to 55mm. It is ideal for cutting interior doors to length using its guide rail, cutting recesses in doors and kitchen worktops, manufacturing expansion joints in parquet flooring, making false joints and for resizing composite board products.

The slimline housing and flat body makes the tool flexible so that it can cut as close as 12mm next to a wall, which is unique to the Festool saws. It has an angle adjustment with undercut function from -1 to 47°. A transparent sliding viewing window provides a good view of the scribe mark and saw blade, and the guide wedge allows simple positioning in existing joints.

The parallel side fence can also be used as a table extension and the parallel guide can be used on both sides of the saw. The splinter guard can be used with or without the guide rail for low splinter cuts to the right of the blade.

The cordless unit comes with a fine-tooth saw blade HW W48, a splinter guard, flag window vision panel, chip collection bag and an operation tool. All Festool cordless saw sets come with two battery packs and a charger and are packed in the Festool Systainer SYS 5 T-Loc carry case.

The new Festool Airstream charging system with integrated cooling function can also be used with the saw. This battery charging system reduces charging time by 65% and extends your drilling time, and keeps you informed on your current charge status.

Festool products are distributed in South Africa by Vermont Sales. "The new Airstream SCA 8 rapid charger with integrated cooling function charges the new Airstream battery packs significantly quicker," explains Ryan Hunt, sales director at Vermont Sales.

"This innovative technology is a first in the industry from Festool as it provides information by displaying the remaining charging time on an integrated LED display on the Airstream battery pack. It shows the current charge status at the push of a button and has additional features that help you to work faster, more efficiently and more effectively," says Hunt.

All Festool power tools have all the fittings to be attached to any of their comprehensive range of Festool dust extractors and come with their systainers and a 1+2 year guarantee.
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All hands on deck for inaugural Deck & Flooring Expo

The Deck & Flooring Expo, co-located with WoodEX for Africa 2018, is set to host its inaugural instalment from 11-13 July at Gallagher Convention Centre in Midrand, Johannesburg.

As the first and only expo in decking and flooring in Africa, the Deck & Flooring Expo 2018 offers exhibitors the opportunity to bring their products, services and technologies to a highly specialised and tuned-in audience that has been cultivated for over six years.

Stephan Jooste, Deck & Flooring Expo organiser, comments, “We have deep roots in the timber industry and detected a niche in the market for manufacturers and suppliers of decking and flooring materials, from raw timber, composite and WPC decking, all the way to coatings and sealants, to have better access to their customers and their markets.”

“Our market research showed that there is no real trade expo on the continent that serves the decking and flooring markets in this way, which is why we are proud to announce the launch of the Deck & Flooring Expo in July of this year, co-located with WoodEX for Africa.

“As the only trade expo for South Africa’s decking and flooring industry, this trade show provides the ultimate platform to connect deck and flooring exhibitors on show with trade prospects, potential business partners and lucrative markets as yet untapped,” says Jooste.

Shared challenges in African agrobusinesses

NCT Forestry Co-operative recently hosted a delegation of Kenyans representing the Kenya Commercial Forestry Programme (small growers) and Kenya Tea Development Agency as well as some NGO and private nursery personnel in Zululand.

Writing in the Southern Africa Institute for Forestry (SAIF) April newsletter, Rob Thompson of NCT explained how NCT invited some small growers farming on tribal or communal land, to attend discussions held with the visitors.

“We presented a background to forestry in South Africa highlighting the marketing and technical support that we render. The Kenyans really appreciated the insights provided and we gained the distinct impression of many situational similarities between us and them.

“Our small growers present then stood up, unsolicited, and spoke of the merits of forestry and positive influence that the industry has had on their lives. The Kenyans were visibly impressed by this particularly when we shared the anecdote of small growers now typically arriving at meetings in well cared for cars and bakkies rather than on foot as in the past. An illustration of the productive role that forestry has played in the challenging lives of local growers.

“The Kenyans in turn had some lessons for us. One individual involved with a vast area under tea lamented the resource waste that he had noticed all over the South Africa landscape. Residual material going to waste and timber waste after harvesting. He told us that he would love to be using that material to feed his boilers as well as his biofuel plant being designed ultimately to feed the national grid.

At a field stop in a compartment that had been burnt due to an ownership “conflict”, the Kenyans nodded their heads in sympathy and indicated that such incidents occur regularly at home as well given the prevailing value of timber. Seems like we are not alone!”

Thompson also describes some interactions from an NCT workshop for small growers themed around the necessity to fell mature timber to ensure optimum density delivery.

“One old man stood up and slapped his shoulders theatrically whilst stating that given that he loads his own timber vehicles, by hand, on his own, we cannot expect him to supply 8-10 year old gum logs! This certainly summed up the generally unseen but nevertheless, exacting circumstances faced by many people within and outside of our industry.”
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