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ISSUE 75

D2E

DOWN TO EARTH MAGAZINE

iMC powered by our people

- SMARTCONSTRUCTION and iMC winners for RHT
- Komatsu's technologically advanced new 830E-5 mining truck
- COVID-19 tick of approval

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KOMATSU

HELPING TO PROTECT

- OUR PEOPLE • OUR CUSTOMERS
- OUR COMMUNITY



At Komatsu the welfare of our people, customers and community is of the highest priority, that's why we've been taking extra measures to support you.



COMMENTS

We live in extraordinary times, at least in 2020! I am sure most of our customers and employees will be quite happy when it is over. Still at times of crisis we tend to see the best of people and organisations. I know this is my experience at Komatsu.

I am very proud how quickly our team stepped up to meet the challenge. Rapidly developing and implementing protocols which first and foremost protected the health of our team, our customers and suppliers. Actually I think Komatsu's focus on safety over many years was crucial and allowed us to quickly pivot to this new environment. I would like to thank you too, because I observed the same quick and effective response from many of our customers in all industry sectors and that has helped protect my team, as well as ensure supply chains kept functioning.

Our mission is to support you. So even in the midst of a pandemic, we will not compromise on our quality or the speed of our support. Obviously you rely on Komatsu equipment, repair parts and service/technical support to keep your sites operational. Please accept my commitment that from our huge global network of factories and warehouses to our very extensive local resources, we are treating this obligation very seriously and taking additional steps to ensure we can operate in the new normal.

It is critical for your business, our business and indeed as we have seen in the broader economy - that now more than ever, it is essential that the Mining and Construction industries remain strong, vibrant, earning export revenue and employing thousands of citizens.

I hope you will enjoy reading this edition of D2E, knowing that we have your back in 2020.

Sean Taylor

CEO & Managing Director

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FRONT COVER

Komatsu's iMC, SMARTCONSTRUCTION and drone technology are revolutionising mine tailings dam construction for WA-based RHT Contracting.

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"With Komatsu's intelligent machine control acting as a rover, we know we are always building to the exact specs; we are never over-building, and everything is always exactly level and ready for rolling."

Komatsu iMC dozers and drone technology help RHT Contracting revolutionise tailings dam construction

Pictured: Aerial photo – taken using Komatsu's EDD high precision UAV (drone) – of RHT's D155AXi-8 iMC (intelligent Machine Control) dozer working on a Western Australian mine tailings dam.

When long-time mates Joe Riccardo, Mike Heddon and Mark Tyler set up RHT Contracting in mid-2018, they knew they needed a winning edge when bidding for contracts – so they went for the most innovative and technically advanced construction equipment available.

That saw them choose Komatsu's intelligent Machine Control (iMC) dozer and excavator technology when bidding for a large contract to construct tailings storage facilities (TSFs) for a major mining operation in Western Australia.

Currently RHT runs four Komatsu iMC machines: two D65PXi-18 swamp dozers, a D155AXi-8 dozer, and a PC360LCi-11, as well as Komatsu wheel loaders, dump trucks, graders, and other excavators on the one site.

Not only does using iMC technology give RHT significant safety, productivity, efficiency and accuracy advantages in TSF construction, it also provides the company's mining clients the security and peace of mind that their critical facilities have been built to the highest and most exacting standards.

Today that's essential for any mining operation, following catastrophic failures of tailings dams in South America in the past five years, which have killed many people and caused widespread environmental devastation.

To ensure their integrity and long-term performance, it's essential that TSFs be constructed following an established process, which involves placing the dam material in 300 mm thick layers; these are then compacted, and the top 100 mm scarified to ensure a strong lock with the subsequent 300 mm layer.

Using Komatsu iMC machines in this application, each 300 mm layer can be placed, quickly and efficiently, within tight tolerances, ready for compaction.

And unlike conventional "bolt-on" machine control systems, the iMC system prevents dozer blades or excavator buckets from "over-digging" into the already compacted and scarified layers, ensuring they are not compromised during placing of the next layer.

When RHT was formed, Joe Riccardo, Mike Heddon and Mark Tyler (the company's name comes from their surname initials) saw the opportunity to use Komatsu's iMC technology to give them a real competitive advantage.

"These days, you've really got to innovate," says Mike. "Clients want to see that you are innovative and you're not a dinosaur."

"I've been going to shows like Conexpo and BAUMA for years, and I see all the latest stuff, and I was wondering how good it actually was. Then we spent some time with Dean Jones and Colin Brindle (from Komatsu Perth), to find out what their iMC technology could do.

"We were convinced enough to buy a D65PXi-18 swampy and a PC360LCi-11 excavator, plus a Topcon base station, which were delivered in February 2019, and took them to the site.

"We also put on Fraser Mead, a young surveyor, who's passionate about technology, plus he's really into drones and how they can really help with the whole mine infrastructure construction process."

As of mid-June, Fraser and RHT are trialling Komatsu's EDD (EveryDay Drone) technology, a high precision UAV (drone) survey system providing industry-leading super-fast onsite processing using Komatsu SMARTCONSTRUCTION's Edge technology.

"Initially the operators weren't convinced about the iMC machines; they said 'stuff this, I'm an operator, I don't need that', but then after a few days of seeing what the technology could do, they were going 'wow!', " says Mike.

"On the first dam we built, we never put a grader on it, did the whole batter with just our first D65EXi dozer and the PC360LCi excavator. I have never, ever done that before; they are exceptionally good. The dams look great, the batters look great, we're never having to do rework, we get it right – from the start to the end. It's always spot on."

Following the success of its first D65PXi-18, RHT bought a second D65PXi-18 in September last year, and the D155AXi-8 in February this year.

"At the moment, we've got all these machines working on site, building up to three dams at one time," Mike says.

"With the dozers, we are using them for winning material from borrow pits, while the excavator is pulling up batters."

Building tailings dams for larger mines requires large amounts of earthworks – with dam walls up to 4-6 km around, along with haul roads, so there's a lot of earth to be moved.

RHT's two smaller iMC machines, with their swamp tracks, are proving ideal for the precision final trim work to millimetre level accuracy, while the larger D155AXi-8 is being used for the bulk earthworks on the dams and haul roads.

"On the newer dams we are building, we are using clay oxide materials, which are heavier to work with, which is why we brought in the D155AXi," says Mike. "Plus we can also use it for building haul roads. We can just map in a haul road route and design, and the machine can go out and build it, even in rock and clay."

One thing RHT has found is that the D155AXi-8 hasn't so far been giving quite the final trim accuracy of the D65PXi-18s.

"Certainly it's extremely accurate compared with any conventional dozer next to it, but because we've seen how precise the D65s are to a few millimetres, we were expecting that with the D155. However, because it's bigger, it corrects slightly differently," Mike says.

"It's still good, still within coo-ee of what we need, but we know at the moment it's giving a slightly rougher surface, so you've got to take things a bit slower, use a lower gear to get there.

"On the bulk side, Komatsu's intelligent Machine Control works really well, absolutely on this bigger dozer. You can just set it, and it does exactly what we need. It's on the fine control, where I think we can get it going even better.

"Because this is all so new, it's something we are working with Komatsu to perfect."

Mike also says iMC ensures that rework and over-excavation is never occurs – eliminating overruns and field survey work.

"With Komatsu's intelligent Machine Control acting as a rover, we know we are always building to the exact specs; we are never over-building, and everything is always exactly level and ready for rolling.

"We don't require anyone to go out there with a dumpy level checking levels and all that stuff," he says.

The other big advantage is having all the works designs already in the machines, ready for the operators as soon as they need them.

"That's a big saving because the operators have everything at hand in the machines to do the work," says Mike.

"In the old days, we'd have two teams out there pegging the site, one for the day shift, and another for the night shift.

"Now we just put in a couple of reference pegs, then once the operator has the levels, it's all good to go."

And as each part of the job is completed, it can be immediately checked and audited – and the records remain readily available at any time in the future for our valued clients or geotechnical engineers.

"This technology means that the as-built track mapping is all there from the start. When you're building a tailings dam, it's essential that layers go down in 300 mm lifts, before the next one goes on top," he says.

"We can see all this on the computer and know that it was done precisely. So, in future if there is ever a question with a dam, we can go back in there and show that it was done exactly right. There's no need for anyone to go in and micromanage. It's a great system.

"The other great thing about these iMC machines is that essentially they act as a mobile rover, because everything is done within the machine.

"So the surveyor can be away on another mine site, and if the operator finishes a job, the surveyor can jump in remotely, and work together with the operator to set things up for the next job. So people are not sitting around waiting for someone to get back after lunch to start up again."

Greatly increased site safety is another huge advantage with iMC.

"Safety is paramount for us. And not having people working on the ground around dump trucks, excavators, wheel loaders, dozers and other machines, is a major safety component. It's just unreal," says Mike.

He's also observed interesting reactions from operators using the iMC systems, and RHT's clients.

"When these machines first came to site, people said it was just more things that can go wrong. But then after a few days, they all agree the benefits are countless.

"And our clients have been really impressed with the quality, efficiency and technology the iMC machines offer.

"With this technology, we have the trucks deliver to the site, the dozers push it out – and it's so level that the trucks can keep working, whereas before we'd have to call in a grader to give the trucks access.

"Everyone is stoked with it, the whole concept. We've since bought a second base station, and we're putting that in our second site."

Mike sees tremendous potential for Komatsu's iMC technology in future projects.

"This is really moving into the future, that's the only direction we want to go now.

"And particularly after those catastrophic dam failures in Brazil, the more you can prove the quality of your work and show that to the geotechs and the clients, the more successful we can be.

"They really need the confidence that these dams are getting built correctly at all times, not just some of the time.

"It's giving the mining companies that security and peace of mind that their dams are built right, so they know they have their dams constructed to worlds best practice.

"We're very committed to this technology. We want to see it on all our earthmoving machines, and we are very keen to see it on the larger excavators, at least up to PC490 size," says Mike.

Pictured: RHT's surveyor Fraser Mead, with Komatsu's EDD (EveryDay Drone) high precision UAV (drone), in front of one of the company's D65PXi-18 intelligent Machine Control (iMC) dozers.





Komatsu announces major advances with new 230 tonne 830E-5 dump truck

Pictured: Komatsu's new 830E-5 features a number of technological innovations, making it the most technically advanced truck in its class.

In what is a major update, Komatsu has released the 830E-5, a 230 metric tonne capacity dump truck said to be the most technologically advanced 240-US ton class truck the company has produced to date.

Powered by a Cummins QSK60 diesel engine rated at a standard 2500 hp (gross), and with a 2700 hp option for greater speed on grade, it incorporates the latest engine and drive system technology, as well as capacity and availability improvements.

According to Jason Arthur, Komatsu's National Product Manager – Mining, the new engine and drive system features deliver improved performance, intelligent parasitic load control on the engine, up to 80% lower particulate matter (PM2.5) emissions and better fuel efficiency.

"Komatsu's 830E has been a long-standing haulage solution in Australian mining for over 30 years," he said.

"It's developed a reputation for very high levels of machine availability and structural integrity over its entire asset life.

"So, when it was time for a model update, it was imperative to preserve these attributes, as well as offering other sustainable improvements and safety enhancements incorporating the latest Komatsu technology – to ensure our customers can further reduce their costs per tonne."

Advances in the engine and drive system parasitic load management on the 830E-5 reduces fuel consumption by up to 5% compared with the previous model. Additionally, the truck can be fitted with on-chassis after-treatment technology allowing it to comply with stringent Tier 4 Final emissions standards.

Brief specs of the 830E-5 are (Tier 4 Final option compatible):

Standard Payload	Capacity	Loading Height	Engine	Drive	Maximum Speed	Continuous Rated Electric Dynamic Retarder	Tyres	Overall Length	Overall Width
230 tonnes (subject to final specification)	(2:1 heaped), 158 cu m	6.26 m	Komatsu SDA16V160 diesel rated at 2500hp (1865 kW) gross (2700hp option available)	AC current with AC torque control system	64.5 km/h	3207 kW	50/80 R57	14.65 m	8.95 m

“The trucks total environmental operational footprint has been significantly reduced compared with previous models.”

“These latest model improvements also reduce external noise emissions; in fact the trucks total environmental operational footprint has been significantly reduced compared with previous models.

“Komatsu’s robust frame design process and the enduring structural integrity of its predecessors gave us the confidence to re-rate the new 830E-5 model with a higher standard payload,” said Jason.

“In addition, it has a generous option allowance that permits it to carry more than 230 metric tonnes, depending on local option configurations.

“And while the 830E-5 is the most technologically advanced model released to date, we’ve maintained our commitment to delivering industry-leading levels of availability, reliability, low-labour intensity maintenance, and long frame life,” he said.

Maintenance-intensity reductions include extended-service consumable intervals, extended oil change intervals, a maintenance-free retard control system, brushless AC motors across the truck and flange type rims.

A major feature of the new truck is its new-generation Komatsu cab, which Jason said was the largest and most comfortable available.

“This is the same cab we recently introduced on our 930E-5 truck, and it has received consistently positive operator feedback and acceptance,” Jason said.

“With noise levels at the operator’s ear of less than 79 dBA and significantly reduced whole-of-body vibration levels due to an improved isolated mounting system, it meets the most demanding ergonomic requirements.

“It’s also designed to be completely gender-neutral, with the operating controls and interface designed for easy and low-effort operation. And it incorporates the full range of dispatch and visual aids that are essential for today’s demanding mining operations.

“The 830E-5 cab design is the same as the 930E-5 model that was released nearly two years ago – and it’s something that has been very positively commented on by operators during our extensive and robust pre-production to field-follow process,” he said.

The incorporation of a range mine management options that are available for the 830E-5 further improves visibility of operations and operator safety.

The new 830E-5 has also been designed to provide a platform for future technology expansion, including autonomous operation using Komatsu’s FrontRunner system, and trolley-assist electric/diesel drive options.

“Our new truck incorporates features that further lower the cost-per-tonne of extracting and hauling materials, taking advantage of Komatsu’s technology innovation and expertise, while also ensuring we continue to deliver the industry’s leading benchmarks in reliability, availability and maintainability,” Jason said.

“In addition to these significant major changes, our 830E-5 includes many small improvements which will contribute to lower-cost, more productive mine haulage operations.”



Pictured: Sean Taylor, CEO & MD. Sean was announced as the recipient of the 2020 Caernarfon Award for his “Let’s talk about diversity and inclusion” presentation delivered at IQA’s conference in October 2019.

Sean Taylor receives industry recognition for Komatsu’s diversity program

Komatsu chief executive officer and managing director Sean Taylor has won the Institute of Quarrying’s 2020 Caernarfon Award for his campaign to encourage diversity in the company.

The Institute of Quarrying (IQ) operates across five different countries (the United Kingdom, Australia, New Zealand, Malaysia, South Africa and Hong Kong), with its members often engaging with each other’s individual knowledge and understanding of the industry through several papers and presentations.

Since 1989, the IQ’s Caernarfon Award has annually recognised the best presentation from its international members.

Judged by the IQ Presidents, it is received by an individual who has been deemed to have made the most significant contribution to the advancement of the science and practice of the quarrying industry.

Komatsu Australia chief executive officer and managing director Sean Taylor was recently announced as the recipient of the 2020 Caernarfon Award for his “Let’s talk about diversity and inclusion” presentation delivered at an IQA conference in October 2019.

“As an industry we have promoted the benefits of a diverse workforce for years. IQA members learned from Sean’s presentation what organisations can achieve when there is co-ordinated commitment from within to bring about real change,” Sean Braddy, the IQA President and Boral’s national quarries general manager for resources and development, said.

Sean’s presentation focused on improving diversity within Komatsu and the company has since taken steps to apply this method of thinking.

Current research shows that a pragmatic approach to diversity and inclusion in the workplace can lead to stronger resilience and performance – something that is particularly important in the COVID-19 pandemic.

As part of Sean’s presentation, Komatsu’s Say Again? campaign encourages its workforce to be conscious of language and ideas that may undermine diverse team building.

“Sean’s presentation at the Geelong conference openly shared Komatsu’s journey to improve diversity and inclusion across Komatsu and provided valuable lessons on leadership through the Say Again? campaign, led by Sean and the senior managers at Komatsu,” IQA chief executive officer Kylie Fahey said. “His presentation received outstanding feedback and the most follow up and interest.

“The IQA nominated Sean for the international award based on the quality of the presentation, feedback and what he is helping shape for the industry.”

Sean described receiving the award as an “unexpected honour”.

“That our experiences have been recognised by IQ Australia and the rest of the IQ community as delivering value to the industry is an unexpected honour and we are thrilled to receive this award,” he said.

Due to COVID-19 precautions, Sean’s certificate and trophy will be sent to him, with an in-person presentation to occur at a later date. The IQA will also organise a webinar to be shared globally of Sean and the presentation at a time to be confirmed.



“Considering our long-standing relationship with Komatsu and the trucks we already have in operation, the new 830E-5s provide synergies in operator training, as well as the ergonomic benefits that come with a new design.”



Pictured: Glen Swift, Komatsu’s General Manager, Western Region (right) hands over the keys of one of the first five Komatsu 830E-5 trucks sold in Australia to Downer Group’s Andrew Haslam, General Manager – Open Cut West, Mining, with a COVID-safe elbow tap.

Downer Group takes first five Komatsu 830E-5 dump trucks as part of long-term fleet strategy

L eading Australian mining contractor Downer Group has just taken delivery of five new generation Komatsu 830E-5 dump trucks – the first fleet to be sold in Australia.

Ryan Kirkwood, Downer’s General Manager Plant, said the purchase of these new 830E-5 trucks was a result of the company’s long-standing operational history with Komatsu electric drive dump trucks. www.downer.com.au

“For a number of years, we have successfully operated large fleets of Komatsu 830Es and 930Es – both internally and for clients,” he said.

“It was an obvious decision to transition to the new 830E-5 for a key project in Western Australia.

“We are moving towards an optimised excavator-to-truck match capacity, which offers significantly more benefits, beyond just efficient operational productivity,” said Ryan.

“Considering our long-standing relationship with Komatsu and the trucks we already have in operation, the new 830E-5s provide synergies in operator training, as well as the ergonomic benefits that come with a new design.”

Key factors in Downer’s decision to purchase the first five 830E-5s in Australia included their improved reliability, low maintenance intensity – including extended service consumable hours, long-term

mechanical availability, and proven extended frame lives beyond 80,000 hours.

According to Jason Arthur, Komatsu’s National Product Manager – Mining, improvements over Komatsu’s proven 830E-1AC include improved levels of operator safety and comfort, increased speed on gradient through horsepower variations, and higher payload capacity.

“The 830E-5 model also has significantly increased parts commonality with our larger 930E-5 model, allowing for reduced stocking levels on sites running both models,” he said.

“Incorporating the latest technology engine and drive system technology, the 830E-5 provides significantly lower noise levels, an 80% reduction in particulate matter emissions, and reduced fuel consumption as part of our drive to achieve lower-energy mining operations.

“It’s also a highly flexible platform, offering future technology expansion capabilities including machine autonomy and trolley-assist options that provide alternatives to diesel fuel and reduce Scope 1 emissions,” said Jason.



CORONAVIRUS

COVID-19

Komatsu's COVID-19 response:

keeping our customers fully informed

Despite the huge impact on the economies across our region – Australia, New Zealand and New Caledonia – many of Komatsu's customers in key industry sectors were permitted to continue working despite strict lockdowns.

This meant that they continued to rely on Komatsu to supply, support and service their products, and to keep on providing important services.

To manage this process, Komatsu established a planning team early on as the extent of lockdown procedures became clear, said Colin Shaw, the company's Executive General Manager, People and Strategy.

"This team adopted a policy of keeping customers as informed as possible as to what was going on, and how we were going to continue dealing with them," he said.

"We quickly established a COVID-19 landing page within our komatsu.com.au and komatsu.co.nz websites, where customers could quickly find information and other material about how we were managing our processes.

"This has included customer updates, outlining Komatsu's responses to fast-changing government requirements and regulations, and how we were managing these to minimise inconvenience and interruptions for our customers," said Colin.

From mid-March to mid-May, Komatsu put out three customer updates, and will continue to issue more of these as and when required.

In addition, on its COVID-19 landing pages, Komatsu published a COVID-19 Protocols Brochure, and a Communications Pack Flyer, which set out all the processes and procedures it has put in place to minimise any chances of infection through interactions with company personnel.

"We also saw some positive outcomes from our response to the COVID-19 pandemic," said Colin.

"These have strong potential for increased work efficiency, improved solutions in supply-chain management, more emphasis on agile supply chain methods, and a ramping up of e-commerce ordering.

"For example, our recently released myKomatsu online customer portal saw a near doubling in use as COVID-19 lockdowns and restrictions ramped up.

"This contactless purchasing process has been very well received by new and existing customers, and proved highly robust during the significantly increased load," he said.

The company also saw greatly increased use of its Komatsu Customer Support Centre facility, with its proven alternative to face-to-face contact.

"These systems we already had in place also proved vital in supporting New Zealand and New Caledonian customers, who were placed under far more stringent lockdown restrictions," Colin said.

"This contactless purchasing process has been very well received by new and existing customers, and proved highly robust during the significantly increased load"

"We were able to move immediately to provide parts to our entire NZ and New Cal networks from our Brisbane distribution hub in Wacol, allowing those essential services businesses in both countries to continue operating.

"Communications we'd had with customers let us identify early on potential areas of vulnerability in our operations, so we worked closely with our people to find solutions."

Part of this included deploying a "flying squad" of Komatsu technical experts who moved from Western Australia to Queensland in recognition that members might be isolated for some time and that on-ground local support would be far more efficient in current times.

"We've learnt a lot about the robustness of our processes and procedures in the past few months, and these findings are now being translated into new training and delivery programs that will allow us to continue providing all our customers with the levels of service and support they need and expect," said Colin.

Komatsu issues first “green bond” to drive development of environmental solutions



Pictured: Colin Shaw, Executive General Manager, People and Strategy.

As an indication of Komatsu’s global commitment to sustainable business operations, the company has announced it will be issuing its first “green bond” through a public offering on the Japanese bond market.

Green bonds are designed to raise funds for exclusive use in business initiatives which work to help solve environmental problems.

To be issued by Komatsu Ltd, the company plans to use the proceeds from this green bond to research and develop, manufacture and distribute products such as hybrid hydraulic excavators and electric construction equipment – which allow for significant reductions in CO2 emissions during their lifetimes.

In addition, proceeds from the bond will be used to further develop services which support fuel-efficient machine operations, such as KOMTRAX and SMARTCONSTRUCTION, with their focus on ICT (Information Communications Technology) to improve fleet, machine and project efficiency.

Komatsu also plans to apply the funds towards developing facilities and equipment to help reduce CO2 emissions in manufacturing, and increase the ratio of renewable energy use.

Komatsu’s announcement of its green bonds issue is part of its three-year mid-term management plan: DANTOTSU Value - FORWARD Together for Sustainable Growth, to be completed by March 31, 2022, said Colin Shaw, Komatsu’s Executive General Manager, People and Strategy.

“Komatsu is committed to making efforts for sustainable growth through a positive cycle of improving earnings and solving ESG (environmental, social and governance) issues,” he said.

“Under this management plan, we have developed 20-year targets for the period between 2010 and 2030, which include reducing our CO2 emissions by 50% and increasing our ratio of using renewable energy to 50% of total energy use.

“That is an important driver of our program to provide high-quality, high-performance products, services, and solutions – all designed to reduce environmental impacts, particularly in relation to climate change – as well as enhance safety.

“With the proceeds from this green bond, Komatsu will further accelerate our efforts to help achieve zero net carbon emissions across the global economy,” said Colin.

“Komatsu has been proactive in researching and developing products and services that contribute to fuel efficiency – which in turn reduce CO2 emissions – for many years.

“Our issuing of this green bond is a significant part of our global Komatsu sustainable strategy,” he said.

“Here in Australia, we are also committed to reducing our carbon emissions, through the use of solar power generation and low-energy products at our facilities throughout the country.

“And as our customers become more aware of environmental issues, and the business and environmental benefits of more fuel-efficient products and services, they’ll be looking to suppliers such as ourselves to be taking the lead,” Colin said.

As part of our ‘Dantotsu Value’, Komatsu has also recently launched the One World One Komatsu program. This is a Komatsu global employee initiative that encourages all our employees to participate in sustainable actions at work or home and collectively make a difference to our quality of life.

“The One World program is a fantastic opportunity for our people to build on Komatsu’s sustainability commitment and continue to develop a culture that prioritises the environment, sustainability for future generations and individual well-being. Employee engagement and community connection is a primary driver to the program’s success. For those who sign up to be part of the program, their actions are tracked and through an environmental calculation these actions are turned into real life measures of success, like the amount of reduced CO2 emissions released, number of trees saved or planted, waste not sent to landfill and much, much more!” Colin said.

“This is an exciting era and we’re looking forward to a brighter and more sustainable world.” he said.



"As our customers become more aware of environmental issues, and the business and environmental benefits of more fuel-efficient products and services, they'll be looking to suppliers such as ourselves to be taking the lead"



Pictured: Komatsu and Anglo American have announced a mine rehabilitation process that includes a high degree of community involvement.

Anglo American and Komatsu team up to restore formerly mined lands

“A key pillar of our global Sustainable Mining Plan is ‘healthy environment’”

Leading global miner Anglo American and Komatsu, a leading provider of heavy equipment, technology and services for the mining, construction and forestry industries, have announced a new mine rehabilitation partnership that will see more than 9,000 trees planted at Anglo American’s Dawson Mine in Central Queensland’s Bowen Basin.

The partnership, Growing Together, aims to return mined land to agricultural use, and support the reestablishment of native plant species using the latest reclamation methods.

It commenced with employees from both companies working together to plant more than 4,000 trees at Dawson Mine March this year. They were joined by around 40 students from Moura and Banana State Schools and Traditional Owners from the Gangulu Nation. Together, they demonstrated sustainable mining practices in action, planting various native eucalyptus species across a 90-hectare site where mining activities have ceased.

Chief Executive Officer of Anglo American’s Metallurgical Coal business, Tyler Mitchelson, said the project was a great example of like-minded companies coming together to support sustainable mining practices in the region.

“Collaboration across our industry and the communities where we operate is a powerful way to achieve improved sustainability outcomes in the local area,” he said.

“We’re committed to the highest standards of environmental performance, and this new partnership with Komatsu adds to our existing \$162 million rehabilitation investment across our five Central Queensland mine sites.

“More than \$80 million will be spent on rehabilitation at Dawson Mine over five years (2019 – 2023), which has been leading the way in innovative rehabilitation approaches.



KOMATSU



“We were very pleased to welcome students from Moura and Banana state schools to Dawson Mine, to help share information about native plants, mine rehabilitation and have them join in with our tree planting event. Schools were also given free plants to take back and plant, so we look forward to seeing more native trees growing across the region.

“A key pillar of our global Sustainable Mining Plan is ‘healthy environment’ and this partnership demonstrates our commitment to innovative and sustainable environmental practices,” Mitchelson said.

The planting included a pilot of biodegradable COCOON® planting technology, which reduces the need for irrigation, to help drought-proof the newly planted trees. The Cocoon pods require 100 times less water than traditional methods and can support a young plant through its critical first year with an accessible reservoir of water and moisture.

President and CEO of Komatsu Mining Corp. Jeffrey Dawes said the new partnership is a continuation of Komatsu’s Growing Forward signature environmental initiative, the reforestation of formerly mined lands, which was launched on Earth Day 2019 to advance the company’s commitment to a sustainable future for all.

“We believe that maintaining high environmental standards is more than a good business practice – it is a fundamental responsibility owed to our employees, customers, communities and the environment we all share,” Dawes said.

“We are proud to be working together with Anglo American and members of the local community as we expand our global focus on reforestation of formerly mined lands.”

The Growing Together partnership continues Komatsu’s existing reforestation efforts with Green Forests Work (GFW), a non-profit organization dedicated to promoting proper mine reclamation methods and the restoration of natural habitats, including national forests. As part of those efforts, Komatsu is committed to reforesting 1,000 acres of land and native ecosystems in the Monongahela National Forest in West Virginia, USA. By the end of 2020, that project will have enabled the planting of more than 150,000 trees and creation of more than 100 wetlands to support natural wildlife habitats.

“Through the efforts of many, we can accomplish so much more than we would working alone,” Dawes said.

“It’s an honour to be partnering with Anglo American, who are global leaders in sustainable mining, to increase the use of advanced mine rehabilitation methods and complete the cycle – bringing the land back to its original use following the extraction of essential minerals needed to grow modern society.”

The Growing Together project is being undertaken in coordination with environmental consultants from Australian firm EMM, and support from Anglo American’s rehabilitation contractor, Moorvale Earthmoving.

About Anglo American

Anglo American is a leading global mining company, with significant investments within Australia and particularly in Queensland. The company operates five metallurgical coal mines in Queensland’s Bowen Basin, which produce and export highest quality hard coking coal for use in steel production for critical building and infrastructure around the world. To learn more about Anglo American’s focus on sustainability, visit: <https://www.angloamerican.com/sustainability>

About Komatsu

Komatsu is a world leader in the technology behind state of the art earthmoving, mining, construction and utility equipment. Komatsu’s vision is to be indispensable to our customers by having the most professional, skilled and engaged people who drive innovation. With over 3,000 employees across Australia, New Zealand and New Caledonia, progressing our business forward is a key element of our success. At Komatsu we consider ourselves family where we meet challenges together, solve complicated problems together, strive for a better future together and most importantly enjoy ourselves whilst developing great friendships. Your Success is Our Success. We are People Powered Technology. To learn more about Komatsu’s reforestation work and commitment to sustainability, visit: <https://mining.komatsu.com/company/social-responsibility/Sustainability>.



Pictured: Students from Moura and Barana state schools, along with community, Komatsu and Anglo American representatives were involved in a rehabilitation program at Dawson Mine in central Queensland.



Three Komatsu apprentices making the most of their career opportunities

Komatsu Queensland currently has three third-year female diesel fitter apprentices who are loving the experiences and opportunities they are gaining working for the company.

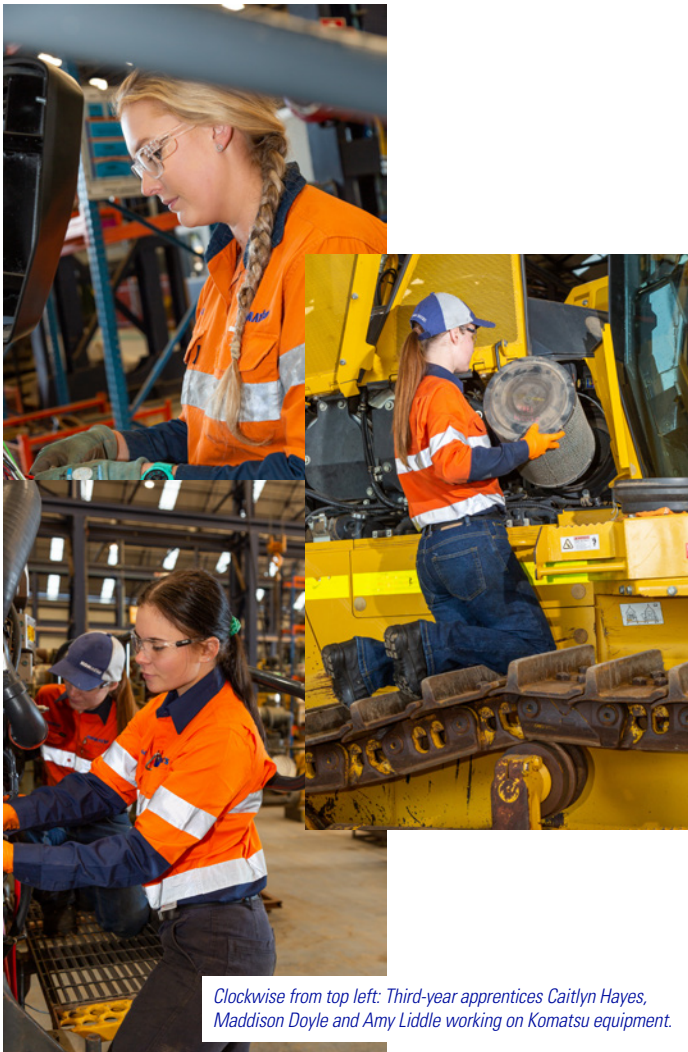
They are:

Amy Liddle, based in Komatsu's Bosso Street Workshop in Mackay.

Caitlyn Hayes, based in Komatsu's Sherwood and Wacol sites in Brisbane

Maddison Doyle, based in the Connors Road Machine Assembly Workshop, also in Mackay.

All three have come into Komatsu through different paths and family backgrounds, which we're letting them tell in their own words.



Clockwise from top left: Third-year apprentices Caitlyn Hayes, Maddison Doyle and Amy Liddle working on Komatsu equipment.



Amy Liddle

Amy left high school after completing Grade 11 to pursue a career as a diesel fitter, something she says "was the best decision she ever made."

Currently, she's mainly working on machine full life rebuilds, building power modules, components, as well as some machine servicing work.

She got to know about Komatsu equipment from an early age.

"Growing up my father worked alongside Komatsu on site, so from a young age Komatsu was all I knew," she says.

"I was my father's little sidekick, so I was always in the shed building and fixing motorbikes, tractors you name it.

"I was lucky enough to get on site at a very young age and get to drive around in a 930E rigid dump truck and see the whole mine site – and from that day I knew that diesel fitting is what I wanted to do.

"During school, I got into a program that allowed me to complete my Cert II in engineering and do 16 weeks of work experience at Komatsu, and that just confirmed this is where I wanted to be."

Amy says she's found everyone at Komatsu to be highly supportive of her.

"Everyone is very willing to help you whenever you need, but if I had to name two people, it would have to be Scott Worthington and Will Boswell.

"They've both encouraged me to work my hardest and learn the most I can, they are always happy to answer any questions I have, and give me honest feedback on how I'm travelling – and I really appreciate it."

While she's primarily been in the workshop, Amy's done a few stints out on customer sites with her fellow tradespeople, and has really enjoyed the experiences.

"They're an eye-opener for what I've got to look forward to in my trade," she said.

"And I find that as long as I keep our customers happy and communicate with them on how jobs are going, then they are really easy to deal with.

"And I do enjoy that part of the job, speaking with customers."

Her preferred equipment types to work on include D475A dozers and PC300 excavators and above.

"I find them really interesting to work on; there's always so much you can learn about them. And they're also fun to build."

Longer term, Amy hopes to continue working in the mining industry, gain a deep understanding of machines and how they work; her ultimate aim is to one day become a workshop supervisor.

"I've found that Komatsu is a really supportive workplace; everyone is willing to help you with anything.

"I have made some great mates through my time here and I'm really looking forward to my future with Komatsu once I complete my apprenticeship," she says.



Pictured left to right: Amy Liddle, Maddison Doyle and Caitlyn Hayes

Maddison Doyle

While Maddison didn't really have a mechanical background growing up, she worked a couple of years in an auto spares, parts and accessories retailer after leaving school in 2015, then in 2017 started working in a warehouse for a mining company.

It was these experiences that got her interested in a career working with equipment.

"When I was working at the automotive retailer, whenever a customer would come in for a particular part, I would always be asking people in my team what it did and how it worked," she says.

"A few of the boys there had 4WDs and I would often go and work on them out of work time. I became so interested in working on 4WDs that I had to get my own!" she says.

"I felt such a sense of accomplishment working on them that I decided I'd like to go bigger.

"Then my dad bought a franchise in Mudgee, 268km's west of Sydney, that specialises in building and fitting hoses, so I took a few weeks off work to go down there to get some experience.

"I got to manufacture hoses and go out to customer sites to fit them to the machine. That's when I decided that I wanted to work on machines as a diesel fitter, and started to apply for apprenticeships."

Maddison finds the team she works with in Mackay to be very supportive.

"There's always someone I can rely on to answer any questions I have. And Komatsu's a great company to work for; they have great training programs that are really beneficial to my trade," she says.

"And our on-the-floor apprentice mentor, Scott Worthington is great at providing feedback; he's easy to talk to and always encourages you to do your best."

Depending on workshop requirements, Maddison divides her time between Komatsu's Connors Road and Bosso Street facilities in Mackay, as well as going out to local quarries and sites with field service technicians to gain further experience.

"I really enjoy working with customers. I find you just have to show confidence that you know what you're talking about," she says.

"And there's definitely a sense of achievement when you go to tell them that their machine is fixed and ready to go back to work."

Being based at Mackay, Maddison has primarily been working on 830E and 930E mining trucks, which she's grown to love working on.

"All service parts are easily accessible, and I thoroughly enjoy working on the components as well, such as cylinders, front corners and wheel motors.

"Stripping down components and seeing how they work would definitely be my favourite part of the job," she says.

When she's completed her apprenticeship, Maddison says she'd love to go out to the mines to gain great exposure to all the other equipment types.

"And longer term, I would love to see myself as a supervisor of some type, either in town, or out on the mines on a roster," she says.

"I'm very grateful that I got this opportunity to be an apprentice with Komatsu; their program has really benefited me to become a good tradesperson.

"I also love the versatility that working for Komatsu provides, as there are so many different roles that I can experience within the company," Maddison says.

Caitlyn Hayes

Caitlyn began her apprenticeship at 19, after working casual jobs for a while when she finished high school. Initially she worked with an agricultural machinery manufacturer for two and a half years, but the worsening drought meant she needed to find a new employer to finish her trade.

"I'd originally applied through Cummins Diesel, and they passed on my details to Komatsu, who offered me the opportunity to continue my trade, changing from agricultural to mobile plant – which was easy to do due to their close nature," she says.

Like Amy, Caitlyn has a family background in trucks and equipment.

"I decided I wanted to do this, after growing up around my parents' workshop on the Sunshine Coast, helping my dad with maintenance on our eight trucks and other equipment," she says.

"I spent a lot of time helping in the workshop when I wasn't at school and found I enjoyed the challenge of it, finding out how things worked how they went together.

"I was always encouraged by my family (three of whom are mechanics) to do what I enjoyed and not be afraid to challenge gender roles in a male-dominated workplace," she says. "They showed me that if I worked hard, persistence would pay off."

When she originally applied for an apprenticeship, Caitlyn was given the opportunity to complete a week of work experience stripping down a V16 engine.

"That fully cemented my idea of 'this is what I wanna do for work'," she says.

"I absolutely loved it and then was lucky enough to be accepted into an apprenticeship out west."

Due to moving from another company in recent months, Caitlyn's not had a lot of time to meet many people at Komatsu, or work with customers as yet.

"So far in the short amount of time I've been with Komatsu, everyone's been super helpful and friendly," she says.

"The guys are always willing to help show you new stuff, teach you new tricks and are encouraging when it comes to new tasks.

"It's a really nice friendly team environment, where everyone gets along pretty well with each other and helps each other out."

And her preferred equipment type? "The bigger the better! I love the challenges of working on any of the larger Komatsu equipment, such as the two D475A-5EO machines I got to work on during my time in used equipment," she says.

Once she finishes her trade, Caitlyn would like to work as a Komatsu field service technician or in the mining sector.

"I'd also like to complete a dual trade as an auto electrician to broaden my career opportunities and paths," she says. "Then one day I think I'd like to become a trainer to pass my knowledge onto future generations of apprentices.

"So far my time at Komatsu has been a rewarding experience, where I've learnt a lot and have plenty of opportunities and room to further my career."



“James comes out to the quarry twice a year and does our stockpile surveys, as well as providing aerial photos and surveying for potential offset areas, and future quarry development.”

Pictured: Aerial surveying using Komatsu’s SMARTCONSTRUCTION drone technology is paying off for Hy-Tec’s NSW quarry operations.

Hy-Tec quarries gaining major benefits from aerial surveys using Komatsu’s drone technology

Leading quarry operator Hy-Tec is seeing major benefits in site safety, along with community engagement, efficiency and productivity advances, through the use of Komatsu’s SMARTCONSTRUCTION EDD drone technology for stockpile management, regulatory compliance and site auditing in its quarries throughout NSW.

Hy-Tec, one of 19 respected brands within the ASX-listed Adbri Limited Group portfolio, operates quarries throughout the east coast of Australia to supply aggregates and sands to the infrastructure, commercial, civil and residential construction sectors, as well as supporting the Group’s 95 pre-mix concrete plants. In total, Adbri’s group of companies operates 44 quarries across Australia.

In late 2018, Komatsu began aerial surveying and stockpile volume reporting of Hy-Tec’s Austen quarry at Hartley, west of the Blue Mountains.

Following this initial success, it now provides twice-yearly aerial surveys and stockpile volume reports at Austen and the company’s other six quarries in NSW: Penrose, Tinda Creek, Dunbogan, Grants, Yarrabee and Tumbulgum.

These aerial surveys are primarily to provide volume reporting of stockpiles, but also help confirm each operation is complying with its licensed extraction limits, and to identify potential offset areas – as well

as giving efficiency, production and site management benefits.

The surveys are carried out by James Mackenzie, Project Solution Consultant with UNISI, a joint venture between Komatsu and Topcon distributor Position Partners, using Komatsu’s SMARTCONSTRUCTION technology and offerings.

Komatsu’s EDD (EveryDay Drone) technology is a high precision UAV survey system that provides industry-leading super-fast onsite processing using SMARTCONSTRUCTION’s Edge technology.

Craig McDonald, Quarry Manager at Hy-Tec’s Austen quarry, said the aerial surveying process using Komatsu drones was very simple and straightforward.

“James comes out to the quarry twice a year and does our stockpile surveys, as well as providing aerial photos and surveying for potential offset areas, and future quarry development,” he said.

“When he does the stockpile surveys, James sets up the same points each time, flies around the stockpiles, then sends us a draft report of the volumes and materials in each stockpile.

“We update them according to our actual material stockpile numbers and volume, and compare them with our previous drone surveys,” said Craig.

Hy-Tec’s quarries use these aerial surveys to measure stockpiles gains/losses for accounting and auditing purposes.

“Each six months, they show us the volume that’s in each stockpile. We know how much we’ve extracted

and sold, and if there’s a discrepancy – say, has it been misallocated, or gone to a different customer – we can track it down.”

He said using Komatsu’s EDD technology was resulting in significant safety benefits and time savings.

“Previously, we’d have a surveyor on the ground with a staff, taking about two days to survey the stockpiles. Now James is on site for maybe two to three hours.

“It’s very cost-competitive, a lot faster and safer, because James is well out of the way of fixed and mobile equipment,” Craig said.

Hy-Tec’s quarries are also using the technology to monitor extraction limits – particularly in areas that are relatively inaccessible, or have dangerously steep slopes – to ensure the quarries always within their approved extraction limits.

“The drone can fly over and physically check boundaries, as well as monitor how wide and deep we are extracting, to show that we are not going too deep or working out of area,” he said.

“As well, at Austen, we have 15m benches into the quarry, and it’s on a very steep hill – so it’s not a very nice place to have to survey on foot.

“The other application we’re using it for is aerial photography for our rehabilitation works, so we can monitor progress every six months.”

In addition to these survey-related benefits, Craig said the regularly updated aerial visuals of the site were proving invaluable in operating and managing the quarry on a day-to-day basis.



Pictured: This Komatsu WA500-8 stockpile loader was delivered to Hy-Tec's Austen Quarry in mid 2019.

"When we're having our regular toolbox meetings, they are a really useful way to communicate with the team on what we're planning with pit development, or the next stages of the quarry," he said.

"When we have haul road changes, we can communicate easily with other users of the area, show them the aerial image and where they have to get to.

"And going forward, we're going to incorporate some of this technology into our induction process.

"So, rather than using traditional handwritten maps, we can go through images showing what's happening, where people will be working, and pinpoint areas of concern, such as high benches, bench identification, drill work areas and so on.

"We can also use them for driver induction and traffic management flow plans; we can show someone who's come on site to load some aggregates exactly where the stockpiles are, and how to safely get there.

"Again, that's so much better than the old-style handwritten maps."

Craig sees benefits in using this technology across improvements in safety, productivity, efficiency and costs, plus a whole host of extra benefits that have only become apparent since the quarry has been using it.

"Really, the sky's the limit in what you could be using this technology for," he said.

"There's potential for our load and haul team to use it to help optimise cycle times, identify optimum routes and gradients, pinpoint areas of hold-ups and choke-points, geological faults and so on.

"And again, we can be using them even more in toolbox meetings so that everyone's on the same page.

"Going forward, I think we could benefit more from using EDD technology's RL (Reference Level) capabilities, working in with our excavation equipment," Craig said.

"So we could set our excavator to only go to RL100 and no more, so that we are extracting 100% of what we've paid to drill and blast, plus it would ensure we always had nice level benches and floors."

Another unexpected benefit of the aerial drone technology has been its ability to provide a 'fly-through' of the total quarry operation for our engagement program.

"We had an open day recently, and in preparation for that, we flew the whole process, from the rock face through to the crushing operations and stockpiles, then onto loading material and trucking it off site through the gate," he said.

"We used this for the open day for our local community, and also for a recent board members' meeting, and as a presentation for potential investors."

Looking to the statewide picture, Ethan Pettiford, Hy-Tec's NSW Quarry Operations Manager, said the aerial surveying package from Komatsu worked very well for the company.

"In terms of mapping our quarry operations, the technology works extremely well, giving us all we need to survey and monitor our quarry operations throughout NSW.

"James comes and does all our flyovers; he's very helpful, and the operation is completely pain-free," said Ethan.

About Komatsu's EDD technology

Komatsu SMARTCONSTRUCTION's EDD technology uses purpose-designed Explore1 precision 3D mapping drones to provide total site solutions for customers.

Komatsu's highly specialised EDD UAV technology is the only commercial quadcopter capable of creating 3D point clouds with sub-5cm accuracy, without the use of ground control points.

It's coupled with Edge 1 technology allowing Komatsu to process rapid high-accuracy point clouds in remote areas without internet connectivity or the need for a high-performance laptop, representing a major advance in data processing.

The system is able to record current as-built data, and provide high-resolution imagery for daily updates and construction progress, plus cut and fill volume reporting.

Komatsu SMARTCONSTRUCTION's EDD UAV capabilities include:

Site survey cut/fill and stockpile volume calculations, allowing users to:

- Measure quantities to confirm cut and fill estimates
- Identify potential delays and verifying truckload estimates
- Carry out continuous as-built surveys at the beginning, middle and end of projects.

Progress tracking and site logistics, allowing:

- Billing verification and work-in-place tracking
- Site logistics overlay and site constraint analysis
- Quicker and more accurate site planning.

Online collaboration and communication, including:

- Frequent map updates for improved safety and coordination with outside agencies
- File exports for data manipulation, reporting and site meetings.

Boral Seaham quarry takes latest Komatsu WA600-8

– 14 years on from predecessor model

"Our relationship with Komatsu, in terms of service and support is something we are definitely happy with. Any time we need something done, we just need to call them, and they'll come out and sort out any issues for us"



Pictured: This Komatsu WA600-8 loader was delivered to Boral's Seaham Quarry, north of Newcastle, nearly 14 years after its predecessor WA600-6 loader went to the site.



Boral's Seaham Quarry, north of Newcastle, NSW, has recently taken delivery of a Komatsu WA600-8 wheel loader – almost exactly 14 years after its predecessor machine, a WA600-6, started work at the quarry.

When it was delivered to Seaham in late 2005, the WA600-6 was the first of this model to be commissioned in Australia.

The quarry is Boral's main source of hard rock for aggregate production serving the Hunter and Port Stephens regions of NSW.

As with its predecessor, the quarry's new WA600-8 is used for both face loading and crusher stockpile handling in a two-shift operation at the quarry – a proven process which has worked successfully for the past 14 years, according to Quarry Manager Matt Miller.

Material at Seaham is won through a drill-and-blast operation, with the WA600-8 used as a face loader, loading two dump trucks which feed the crusher during the day shift (6:30 am to 3 pm), as well as the boot bin stockpile adjacent to the crusher.

During the afternoon shift (3 pm to 10 pm), it then becomes a stockpile loader, loading material from the boot bin to the crusher.

"We've had a very successful run from the previous WA600-6 since it came on site in 2005, and that's the reason we went for Komatsu's new Dash 8 loader," said Matt.

"Because of its role in the quarry, this loader plays a critical role across both face loading and crusher stockpile handling, so we really depend on it. For that reason, we decided it was time for a new machine," he said.

During its time at Seaham, the WA600-6 had logged nearly 35,000 hours.

In early 2013, at the 21,000-hour mark, Komatsu carried out a rebuild of the loader, including a replacement engine and drivetrain, hydraulic pump and lift and steering cylinders.

Delivered in early March 2020, Matt said the new WA600-8 has been performing very well in comparison with its predecessor.

"The fuel burn on it is significantly less than the previous loader. Terry Johnson, our main operator of the loader, and who's been there since the last one was delivered, is over the moon with it.

"And our relationship with Komatsu, in terms of service and support is something we are definitely happy with. Any time we need something done, we just need to call them, and they'll come out and sort out any issues for us," he said.

Komatsu's WA600-8 is powered by a Komatsu SAA6D170E-7 engine rated at 395 kW net, is available with operating weights from 55.4-57.5 tonnes and takes bucket sizes from 6.4-7.8 m.

Its Tier 4 Final certified engine reduces NOx and PM levels by up to 90% compared with their Tier 3 predecessors, as well as delivering fuel savings of up to 15%.

"We monitor KOMTRAX, on all our machinery and rely on Komatsu's own service operators to work with us to deliver maintenance solutions that fit in with our business requirements"



Pictured: Bryce Abbott runs the business with his father, and they know "Each day, we know we're going to get a Mayday call," hence having more than 200 pieces of diverse machinery – including this Komatsu PC200LC-8MO excavator.



Pictured: Mayday Earthmoving's business proposition is to provide a one-stop-shop for all machinery and operator requirements – hire, maintenance and training. Here, one of their Komatsu wheel loaders, the WA320PZ-6.

When you need help... call Mayday

Mayday... Mayday – the international radio distress call is 100 years old next year.

It was coined in 1921 by an air-traffic controller at Croydon airfield in Great Britain to be universally understood by the British and French pilots of fragile, unreliable, early cross channel aircraft. In French it's; 'm'aider' – 'help me

It's the signal no-one wants to send, and yet in Perth it's used up to thirty times a day, always with a positive outcome.

Bryce Abbott runs Mayday Services, a close to unique dry and wet machinery hire company dedicated to providing local councils and contractors with instant relief for pressing problems.

Bryce, fifteen years with a company formed by his father Ken 28 years ago, has just taken delivery of his twenty fourth piece of Komatsu equipment, confirming the company's position as Mayday's principal machinery partner.

It's part of a strategy to build Mayday's inventory by better than 10 percent each year, turning over its fleet on a four- year cycle to keep machinery fresh for its clients.

Clients can cost-efficiently access more than 200 pieces of diverse machinery, usually for planned activities but also for immediate assistance in times of dire need.

Mayday has more than 20 Western Australian Shire Councils on its regular roster, which maximises their own tight budgets by tapping into a reliable pool of equipment to supplement their own fleets.

Mayday's unique business proposition is to provide a one-stop-shop for all machinery and operator requirements, taking responsibility for machinery purchase, maintenance and operator training and welfare.

It requires precision and planning, as well as a great deal of self-belief to deliver on a promise which is dependent almost entirely on external factors that can arise instantly and change daily. Partnership with leading suppliers as well as with clients, is imperative.

Mayday Services is evolving into a complex logistics organization, dependent on machinery partners for equipment reliability, while it manages their deployment across Western Australia.

Every day more than 85 percent of the company's entire inventory is in use, demanding a complex matrix of supply from Mayday's head office in Wangara, north of Perth, and its two satellite operations.

According to Bryce, Komatsu's KOMTRAX system of on-board remote jobsite management and specific machinery data collection, has provided Mayday with an important tool to monitor and control machine use.

"We bought our first Komatsu, a GD 655-5 Grader in 2008 when our entire fleet was less than 10 machines," Bryce said. "It provided our first experience of working with a key supplier to optimize machine use.

"Maintaining our machinery in top order is important not only to keep faith with our clients, but also to ensure change over price is maximized.

"We monitor KOMTRAX, on all our machinery and rely on Komatsu's own service operators to work with us to deliver maintenance solutions that fit in with our business requirements."

Flexible service schedules are an important part of the strategy: "We can't afford to have machinery problems especially while they're in the hands of our customers," Bryce said.

For the most part, the company works with its clients to plan major works, packaging a variety of machines to meet specific requirements sometimes over a long-term.

But it also keeps its company name – and the promise of help it implies – firmly in mind.

In the past two months it has taken delivery of four new Komatsu machines of different size and configurations – WA250PZ-6 and WA320-PZ-6 loaders and PC130-8 and PC200LC-8MO excavators.

"Each day, we know we're going to get a Mayday call," Bryce said.

"We need to have the capability to meet a spread of opportunity, and to act quickly to provide a solution."

Early adopter reaps rewards of on-line parts service

A remote area contracting, and plant hire company is reaping unexpected benefits from becoming an early adopter of a recently introduced on-line parts ordering system.

Bennett Contracting and Plant Hire of Clermont, 300 kms inland from Mackay and almost 1000 kms from Brisbane, signed onto the my.komatsu.com.au parts online ordering platform simply to streamline its day-to-day business with its key machinery supplier.

Instead, it has found a pathway to ordering essential replacement parts for its other machines as well, at a substantial cost saving.

And it has significantly reduced freight costs to its remote depot.

The service has already created savings 'in the thousands,' all of which have gone to the company's bottom line.

Consolidation of its parts supply onto one ordering system had reaped substantial rewards, according to Bennett's workshop maintenance manager, Patrick Anderson.

Komatsu launched the intuitive parts ordering portal on its my.komatsu.com.au customer website just 12 months ago, specifically to assist customers like Bennett Contracting maximise their service and maintenance schedules.

The portal is available to all Komatsu customers as a free of charge subscription.

"I must admit I was sceptical when my Komatsu Customer Support Sales Representative Alistair Ross presented it to me," Patrick said.

"I'm pushing fifty and I've been used to doing my parts ordering business over the phone, even though it can be aggravating."

Alistair helped his client to get started on the portal and to open a range of opportunities well in excess of a streamlined ordering system.

"If I order parts worth more than \$500, the freight to my workshop is free," Patrick said.

"A reasonable percentage of my orders come from Brisbane so that represents a huge saving, especially if I'm smart about predicting my needs to ensure they meet the minimum freight requirement."

Bennett Contracting runs a fleet of five 650-series Komatsu graders and two D65 bulldozers at the hub of a hire fleet which encompasses more than a dozen prime movers and associated lighting plants and generators.

"We've just taken on another Komatsu D65 bulldozer to service increasing requirements from the shire," Patrick said.

"The myKomatsu Customer Portal provides instant access to the online Parts Books for the new machine, so its management has become easier and more visible right from the outset."

Bennett Contracting services mines, agriculture and council requirements over a 300 km radius, and adheres to a strict 250-hour servicing policy on all its machinery, made necessary by extreme operating conditions.

Dust on earth works, particularly, is a major concern.

"The Komatsu portal has opened great opportunity to us," Patrick said.

"It offers a range of top-quality components to suit all our machinery, especially regular replacement items like fuel and air filters.

"Some are at prices well below those we'd been paying, and when you take into account the reduced freight charges, it's a very competitive arrangement."

Bennett Contracting began more than 20 years ago as an adjunct to the agricultural operation of local cattle farmers Greg and Sophie Bennett, with "a Komatsu grader and a water truck," according to Patrick.

It has grown to employ more than 30 skilled operators – substantial in a rural community with a population of just 3,000 – and according to Patrick Anderson, it is continuing to grow.

According to Alistair Ross, take up of the my.komatsu.com.au portal in Emerald and the Isaac shire has been growing significantly.

"The interruption brought about by COVID-19 restrictions has reduced contact at our branch and made an on-line service even more essential," he said.

Customers are able to pay by credit card or on account, and receive live tracking updates via email during the delivery process, starting with an instant confirmation that the order has been received.

"Access to a complete order history, including those made by means other than the online portal, gave customers full transparency of their spend with Komatsu and aids their accounting process," Alistair said.

"Importantly, the portal has been made extremely intuitively so customers can import and export shopping cart choices at the click of a button without having to manually enter every single part number.

"It's a system which virtually eliminates errors."

"Some are at prices well below those we'd been paying, and when you take into account the reduced freight charges, it's a very competitive arrangement."



Pictured: Patrick Anderson, Bennett Contracting workshop maintenance manager and Komatsu Customer Support Sales Representative Alistair Ross, stand next to one of five Komatsu 650 graders operated by Bennett Contracting. (Pic taken before COVID restrictions).



Pictured: Alistair Ross from Komatsu explains to Bennett Contracting workshop maintenance manager Patrick Anderson the significant cost reduction by using the my.komatsu.com.au portal, including Komatsu's current provision of free freight for any orders over \$500. (Pic taken before COVID restrictions.)



The Swiss Army knife – reinvented

Komatsu has collaborated with one of New Zealand's most innovative machinery contractors to build an excavator that has become universally known as the Swiss Army Knife.

The Komatsu PC220 has been equipped with a Can Bus system that allows interchangeability between up to 10 attachments – each capable of being installed and operational within five minutes.

The innovator is Brandon Whiddett, one of two founders of Auckland's Treescape, a specialist arborist business with branches throughout New Zealand and on the east coast of Australia.

But while Brandon is the co-founder of the now 650-person strong business, he prefers to be known as the Chief Engineering Officer, and he works from a small office at the core of a workshop of 14 people whose task it is to make all their equipment more efficient.

Brandon's piece-de-resistance is his PC220.

The one machine is capable of fitting and using within minutes, a high-speed mulching head, a vertical tree-grab shear, a chain-saw felling head, a high-speed hydraulic stump grinder, a hydraulic tree transplanting spade, a rotating grapple with pusher bar and a winch bucket.

"I'm not an engineer, just someone who thinks about practical improvements," Brandon said. "I come up with ideas and Komatsu does the design to my request. "There isn't a machine built yet, that isn't so perfect it can't be made to work better."

Brandon and his business partner Ed Chignell started Treescape more than 35 years ago; their plan was to pioneer the concept of ecologically sustainable arbo-culture in a world which was only just coming to terms with what that meant.

For Brandon, right from the start, success was all about efficiency.

While competitors were felling portions of forests and creating environmental waste, Brandon saw immense improvement in designing and purpose building a 3.5 tonne trailer to remove felled material.

A decade on, still seeking efficiency, he bought his first Komatsu excavator. The purchase of the PC130 was unusual if not unique in the arbo-culture industry which was still employing manual labor. But it wasn't only the machine he was after as much as the opportunity to collaborate with a major international company that could help turn his ideas into reality.

"He's made us part of his think tank," Komatsu's New Zealand product support manager Brent Hepple, smiles about the customer who's become a colleague, and a friend.

"He'll ring-up and say let's go hunting and we'll go and sit in his blind in the forest and we'll talk about his new projects."

It's a partnership that has led to Treescape having 45 Komatsu excavators and wheel loaders across its network – one of several long terms supply arrangements, Brandon has nurtured with key business associates.

Brent's job is to make Brandon's ideas work within Komatsu's operational guidelines to maintain his own company's product integrity and importantly, to help grow Treescape's reputation at the forefront of innovation in green management.

The multi-tool concept, powered by Komatsu's ability to devise a system with easily identifiable graphics, which allow an operator to switch hydraulic flow from within the cockpit, has been a major triumph of the association.

"It's the most extraordinary sight," Brent said. "You can arrive on a Treescape job and find a multitude of attachments all neatly laid out, waiting to be used in sequence with a minimal change over between them. Comparatively there are people, especially overseas, who use one machine with one attachment permanently fixed, losing so much flexibility and potential profitability."

The collaboration between Brandon and Komatsu has been exceptionally successful. Clear understanding between them has allowed Brandon to make improvements which place minimal stress on the machines, and their operators, leading to greater productivity from both.

Recently Komatsu went one-up on Brandon. It delivered him a new excavator resplendent with its own logo – a Swiss Army Knife design symbolizing his pioneering work.

"You can arrive on a Treescape job and find a multitude of attachments all neatly laid out, waiting to be used in sequence with a minimal change over between them."



Pictured: Treescape and Komatsu have developed a strong relationship over many years of doing business together.



Pictured: The Komatsu PC220LC-8MO that Brandon Whiddett, Treescape founder and innovator, adapted with a CAN Bus system that allows interchangeability between up to 10 attachments. Always with the focus of ecologically sustainable arbo-culture.

“Our PC850 operator can extract more rock with greater efficiency and in far greater comfort than ever before”



Tale of two quarries

Pictured: PC850-8EO at Winstone's Belmont Quarry in Lower Hutt.

The two largest quarries servicing Wellington, New Zealand's giant \$NZ850million Transmission Gully motorway project – one of the most complex in the nation's history – were each looking for a way to bring new efficiency to the job and win major business.

The Transmission Gully project was for some months up to 50 percent of their total volume, so competitive advantage was vital.

The answer was in securing an excavator so powerful, with so much capacity and yet so cost effective, that it would set new standards.

“I went down to Wellington Harbor to welcome my new Komatsu PC850-8EO Super Excavator when it arrived on the ship from Japan – and there were two of them on board,” Shane Hagai, Manager of the Winstone owned Belmont Quarry said.

“I asked who owns the other one, but I already knew the answer. There was only one other quarry that would order it.”

Matt Hill, Quarry Manager of the Horokiwi Quarry which operates just seven kilometres from Belmont Quarry, both equal distance from the Transmission Gully project, chuckles at the recollection:

“Just ask Shane who took delivery first – he'll tell you it was him, and I reckon it was us.”

In fact, the commissioning occurred simultaneously, although Shane concedes his was held up perhaps two days, mainly because of some signwriting he wanted done.

“Our operator is just so proud – he parks it up each night high on the hill so it can be seen by the whole Hutt Valley, and there's not a scratch on it.”

For five years both quarries have competed for, and shared, most of the massive supply of aggregate to the 27 kilometre four lane motorway, due for completion at the end of this year.

The call for material has led to the quarries digging deeper into their resource of hard Greywacke rock unique to the region, made possible by the strength and power of the PC850 – the largest of Komatsu's construction excavator fleet.

The coincidental-Komatsus have levelled the playing field, to the benefit of their Transmission Gully client.

Drill and blast, to loosen rock, has become a thing of the past for both quarries.

“We used to blast once every three months, now not at all,” Shane said.

“Our PC850 operator can extract more rock with greater efficiency and in far greater comfort than ever before,” Matt said.

Both companies are filling their 40 tonne Komatsu dump trucks with five passes of the PC850, compared to six to seven passes with machinery they were previously using.

Fuel efficiency through streamlined workload has been increased compared to previous machines.

Komatsu's push-to-activate boom power mode has been the key to more efficient extraction.

Both quarries also share the same service arrangement, with Komatsu appointed Machinery Specialists, an investment in Komatsu operators in the Wellington area which has substantially increased the company's local footprint.

“They've turned out on Sunday to service our PC850, to keep us competitive,” both Shane and Matt independently volunteered.

Shane Hagai estimates his Belmont Quarry has contributed better than 1.6 million tonnes of aggregate to the Transmission Gully project; Matt Hill is less specific, but it could be about the same.

“I sit in my office and watch his trucks go by,” Shane said.

It's a friendly rivalry - the companies tend to lean on each other to ensure they both service the project, made difficult by extremes of terrain, climate and external factors, like the 2016 Kakoura earthquake which diverted resources for some time.

“We all got together for a beer at Christmas,” Matt said.

Both quarries acknowledge that their new acquisitions have given them opportunity to better service their long-term client base at the conclusion of the Transmission Gully project.

Wellington is uniquely placed in New Zealand, and the ability for civil and infrastructure projects to be serviced locally, reducing transports costs, is paramount for efficient future development.

According to Matt even greater earthquake proofing measures had placed increasing demand on aggregate for new building projects.

But both also are eyeing new roadworks programs recently announced in a sweeping \$NZ6.8 billion commitment by the NZ Government.

“One of them is just up the road from here, right between us,” Shane said.

The rivalry, it seems, will continue.



Pictured: Central Highlands Council, one of the largest councils in Tasmania, has recently bought a Komatsu wheel loader, the WA270-8, shown working at the council's quarry.

Komatsu keeps on keeping on

One of the largest shire councils in Tasmania has just bought a new Komatsu wheel loader – but they declined to trade their “old” one – its 37 years young and still going strong.

They simply put it on light duties and placed it on standby to help the new one in times of overload.

Central Highlands Council, which services 12 percent of the total landmass of Tasmania, has been through three amalgamations since the original Hamilton Shire bought the Komatsu W60-1 in 1982.

The ‘old-loader’ as the 15 strong road network workforce calls it, had been the hub of a program of self-sufficiency for the entire time, working in the council’s own quarry.

The hour metre gave up working years ago, jammed north of 30,000 hours, but the loader kept on keeping on.

“Because of budgets, and the area we have to cover, we do a lot of our own work ourselves,” Barry Harback, Council’s supervisor of roads and services, said.

That means maintaining 619 metres of unsealed and 118 kilometres of sealed road with a pass at least once a year, using dolerite red gravel taken from the council’s own quarries.

It’s an efficient operation, minimizing the need for external contacting services. Council is even breaking new ground by building its own new sealed road – a 1.2 kilometre stretch replacing a gravel section into Hamilton.

The sheer size of the council’s boundary – encompassing just on 8,000 square kilometres of hilly, densely wooded and largely wilderness area, means that they work their machinery hard.

More than a decade ago, the Council bought a newer wheel-loader (not a Komatsu) to work the quarry while the Dash-One moved to the adjacent landfill area requiring less mechanical stress.

But when the newer machine had transmission trouble, the ‘old loader’ simply swung back into action and took on the main task. Council staff even re-fitted the Dash-One’s long removed bucket weigh scales and it worked perfectly.

“It’s been a phenomenal run,” Barry said. “When we decided to finally buy a new Komatsu – the latest WA270-8, there was no reason, and no way, we were going to part with the ‘old loader.’ The W60-1 is back on landfill duties while the WA270-8 works the quarry.

Barry has been in the unusual position of being able to drive the two machines, from two eras, back-to-back.

“The Dash Eight is smooth to operate, it’s so quiet you can hardly hear it, and its air conditioned,” he said. “The Dash-One is a bit vintage.”

“The Dash Eight is smooth to operate, it’s so quiet you can hardly hear it, and its air conditioned”

Operating controls are completely different. The Dash-One has massive forward and reverse levers sticking out of the dashboard and a bucket lever rising from the floor. The Dash-Eight operates on an intuitive joystick.

Council and Komatsu’s Tasmanian branch added a bucket extension to the new machine to provide it with 0.3 cubic meters greater capacity, making filling its own trucks more efficient.

“We’re still getting better fuel use from the new machine, even with its greater workload,” Barry said, “although that’s just my estimate, we haven’t done a formal test.”

The new WA270-Eight is fully covered by KOMTRAX, Komatsu’s on-board machine health, and performance monitoring system. Electronics were still in their infancy when the Dash-One was built.

“We haven’t had to call on KOMTRAX yet,” Barry said. “We have, just on 200 hours on the new machine and we’ll use Komatsu’s warranty service to maintain it.”

But when the warranty period is complete, Komatsu will continue to overview the two machines, plus the Komatsu graders which are also on Council’s fleet.

“Service is a strong part of why I am a Komatsu man,” Barry said. “I know if anything does go wrong, we can rely on them for anything we need.”



Emission-compliant Komatsu wheel loader handles waste with haste

Pictured: Byron Shire Council's new Komatsu WA270-8 loader, with Tier 4 Final low emission engine, helps the Council transform household waste into garden mulch.

With Tier 4 Final emission controls in mind, Byron Shire Council has purchased a Komatsu WA270-8 wheel loader to help sort household and green waste.

Located in the Myocum hinterland (close to Mullumbimby, New South Wales), the Council's Resource Recovery Centre is a recycling facility that sorts household waste and annually transforms 3000 tonnes of green waste into high-quality garden mulch.

Its chief tool-of-choice in this activity is a new Komatsu WA270-8 wheel loader, a machine that was chosen for its productive capabilities and also because it met stringent Tier 4 Final emission controls.

Although Tier 4 Final emission controls for non-road diesel-engined vehicles are not compulsory in Australia, Byron Shire Council chose to adhere to the standard, said Resource Recovery Centre site manager, Ken Moore. "Council recently formed a Sustainable Emission Reduction Advisory Committee to evaluate purchases such as this," Ken said. "We take our environmental reporting seriously and a lot of consideration was given to the emission performance of the Komatsu wheel loader.

"We researched offerings from two other brands during the diligence phase, but we wanted to meet Tier 4 Final emission controls and the Komatsu WA270-8 wheel loader was the only machine under consideration that did so."

Powered by a new-technology Komatsu engine, the WA270-8 features Komatsu's PZ parallel-lift arm system and hydrostatic drive for excellent versatility and productivity across loading, handling and lifting applications.

The Resource Recovery Centre's unit had the air-conditioning condenser relocated at pre-delivery, in order to reduce material build-up when the machine is turning-over compost and mulch.

It is also equipped with a cabin pressuriser and HEPA filtration in order to keep the cabin free of dust and fumes. "The HEPA filter and pressurised cabin keeps

the boys dust-free when they're working, which they appreciate," said Ken. "The air-conditioning is also fantastic. I can hardly get them out of it on hot days.

"There are also Waste Regulation Acts and Work Health and Safety considerations around air quality."

The Komatsu WA270-8 wheel loader spends the vast majority of its time performing duties for the Resource Recovery Centre's Compost Facility. "It pushes green waste up into a pile to be ready for mulching and loads out commercial quantities of the produced mulch," said Ken.

"It takes a couple of days to move the mulch piles around and then about a week to pasteurise it on our aerated mat-pad. The rest of the time, the Komatsu wheel loader is emptying the bins that people drop their rubbish into."

In addition to the wheel loader's emission performance and pricing, Ken said Komatsu's service and support offerings were highly attractive. "Cost was of course a factor, and also support and serviceability. They were big selling points for us.

"We've had the Komatsu wheel loader for nearly a year now and the support and service we've had has been fantastic. Their field service technicians are local to our Northern Rivers area and they come out to us within a couple of hours if we need them, including after-hours if necessary.

"They rang me the other week and said it's due for a service when I wasn't aware of that. They asked what time to arrive and I said 'early in the morning' so it didn't hold us up, and sure enough they arrived first-thing and sorted it out. Not a problem."

Backed by Komatsu's Australia-wide service and support network, the Komatsu WA270-8 wheel loader comes standard with the KOMTRAX remote monitoring system, which provides real-time information on a fitted-machine's location, performance and health – helping to maximise machine safety, productivity, up-time and availability.

"It comes with all the bells and whistles such as KOMTRAX," said Ken, "so you know exactly what the machine is doing. We don't even have to keep track of when it needs a service. Komatsu has eyes on that, remotely, and come out to us when it's due. It's necessary for us to keep the machine on site because we can't afford the costs of transport and down-time."

Ken reported that the Resource Recovery Centre's leading-hand mechanic is impressed by KOMTRAX and the ability to be able to access codes and diagnostics at the machine without having to need licences, laptops or specialised technicians. "They sent our mechanic up to Brisbane to show him how to read all the diagnostics. He finds them really great to talk to."

Other fans of the Komatsu WA270-8 wheel loader include its operators, with Ken relating that his staff, and himself, enjoy using the machine: "I like to drive it; it's a really comfortable and easy machine to negotiate, and the always-on reversing camera is fantastic, too. The other fellas are really happy with it, too."

The Resource Recovery Centre has a long history of using Komatsu equipment and is set to make more of it. "We have hired Komatsu wheel loaders in the past and found them to be really good – we've had no dramas whatsoever – but this is the first time Council has purchased one outright."

Is another Komatsu wheel loader planned to assist in the workmanlike and rather noble activity of recovering and producing useful materials? "Having the single Komatsu wheel loader is enough for us because we have a backhoe as well," said Ken, "but the Council Works Department has just ordered a new Komatsu grader."

Cleanaway operates Komatsu waste spec loaders in critical high-volume application

Cleanaway, Australia's leading waste management and recycling company, has been operating two Komatsu WA430-6 waste spec loaders for the past 12 months in a critical 24/6 waste handling facility catering for Melbourne's south-eastern region.

Cleanaway Waste Management operates the SEMTS (South East Melbourne Transfer Station) in Dandenong, which was purpose-built in 2017 as a commercial drop off and disposal facility, receiving general waste, construction and demolition waste, and timber for Melbourne's south-east corridor.

Operating 18-19 hours a day from Monday to Friday, the two Komatsu loaders are logging around 4500 hours each a year, according to Oliver Walther, Cleanaway's National Fleet Manager.

Each loader is fitted with a 9 cu m waste handling bucket, and solid tyres to eliminate punctures.

"Their main role is moving and separating waste material as it's received so it can be shredded and compacted for transporting to the next facility," said Oliver.

"Our SEMTS site ships out around 1500 tonnes a day, with each road train's payload averaging 38 tonnes, six times a day.

"This means it's essential that the two loaders are able to keep up with the required cycle times, as well as maintaining high levels of availability.

"We've had the loaders on site for over 12 months now, and aside from a few minor issues, we're getting excellent reliability from them," he said.

"We've got a full maintenance agreement with Komatsu so any issues are quickly addressed and our operators are supported with training for correct application."

Oliver said that Cleanaway had opted for Komatsu in this critical application on the basis of reliability, specifications, price and machine availability.

"Nationally, we run a fleet of 10-12 Komatsu machines in our waste management operations, so we knew they would be able to meet our stringent reliability and availability requirements," he said.

"We've got a full maintenance agreement with Komatsu so any issues are quickly addressed and our operators are supported with training for correct application."



Pictured: Cleanaway is operating two Komatsu waste-spec WA430-6 wheel loaders in a critical waste handling facility in Melbourne.



Pictured: Advancements in shearer automation methods increase precision



How a smooth floor cuts your longwall running costs

Many of today's shearer automation methods position the floor drum in a way that mirrors the shape of the roof, at a predefined offset, away from the roof line. With this conventional practice, the shape of the roof is determined by the cut of the operator and every movement of the roof drum affects the position of the floor drum.

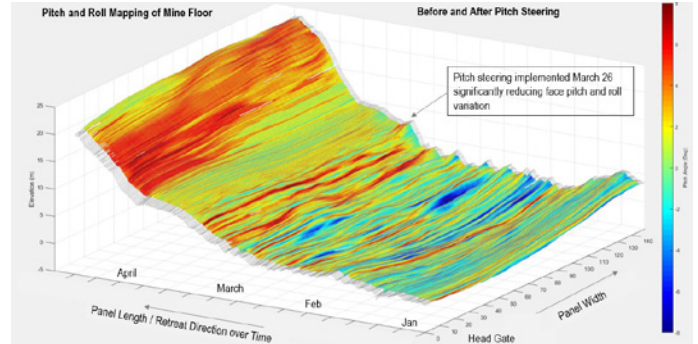
This method results in "roll oscillations" along the face. As the shearer hauls across the pans' bumps in the floor, it creates bumps in the roof due to system lag, which can result from things like sensor response and filtering or hydraulic response time. The bumps in the roof get reflected to the floor and the problem compounds itself with each pass. This has been a standard practice with operators proactively intervening, utilising the tools they have to stay in the seam.

The resulting challenges from roll oscillations include armoured face conveyor articulation creating stress and wear while increasing power demand, and positive pitch changes causing shearer drums to potentially collide with canopies.

With advancements in shearer automation, there are ways to stay in the seam with less operator intervention and better strata control, through maintaining a smooth floor. A smooth floor results in the most consistent and efficient cycle times, while minimising the need for human intervention.



Pictured: With Pitch Steering, the operator can instruct the system to make an elevation change by entering a positive or negative correction across the desired range of supports and number of passes.



instruct the shearer to execute controlled incremental elevation changes by entering corrections into the roof support mimics. The target angle can be updated offline and then uploaded to the shearer by the user as needed if conditions change.

Pitch Steering is the latest enhancement to Joy's Advanced Shearer Automation (ASA) program and can be operated in an adaptive mode in seams where the advance angle changes drastically, with the system learning the changing seam angle and adjusting its set points accordingly.

Accuracy to drive results

Pitch Steering manages the floor as a controlled surface by limiting the amount of change in the floor per pass. The system scans the face and applies algorithms to maintain a smooth floor cut, providing benefits across the operation.

A smooth floor, with no drastic changes, allows the system to measure the surface accurately, producing a stable system, meaning less operator intervention is required.

The improved alignment of roof supports means better strata control and the reduced conveyor articulation saves time and money by reducing wear and tear. Pitch steering is also intended to prevent collisions between shearer drums and canopies by managing the maximum pitch change per pass.

The additional level of automation positions the operator farther away from the shearer and roof supports, driving high-production longwall mining while lessening the dust and noise to which the operator is exposed.

Pitch Steering system meets the challenge

The development of a 3D cutting simulation tool has allowed for enhanced testing of the feature by simulating the armored face conveyor pans being pushed onto the floor that the Pitch Steering system has created. This dynamic testing environment has allowed Komatsu Mining engineers to ensure the feature is designed appropriately to handle the challenging environment in which longwall shearers must operate.

Komatsu is also in the process of developing a new remote called a "Surveyor", where pitch steering correction can be entered remotely as an alternative to entering corrections into the PRS mimic.

Contact your local Komatsu representative to see how pitch steering can significantly reduce your total cost of ownership.

An alternative to today's challenges

Pitch Steering is a new automated cutting method that applies to the floor drum, designed to position the drum at a height that maintains a preconfigured pitch angle of the pans. It accurately plans the cut based on gate road surveys and geological information. The target angle is intended to reflect the actual angle of the seam being mined.

This patent-pending system will position the floor drum to maintain this pitch angle unless an elevation change is required. To create an elevation change, a pitch correction is created by adding a positive or negative pitch offset to the target angle for that section of the face. The magnitude of the offsets is defined by the user during the commissioning phase, and results in a very predictable and controlled elevation change.

With the Pitch Steering system, the operator can



Pictured: The pitch steering process creates a more stable system so less operator intervention is required while maintaining better strata control.



RMA's Komatsu PC240LC-11 hydraulic excavator

Matt Ayres was 16 and in year ten at Saint Paul's College, Altona when one weekend he and his dad Rob used an oxy torch to cut the curtain side body off the family's general haulage truck and turn it into a flatbed.

It was a leap of faith.

Out of the blue, truckie Rob had been offered an infrastructure job laying underground cables and erecting street-lights – and he figured, why not.

All he needed was a 1.5 tonne excavator, a sidekick and a flatbed truck.

"I'll never forget it - the curtain side was attached in four places; we both had a go at the oxy and we winched it clean away," Matt grinned.

Matt was doing well at school – captain of the footy team, pretty sound academically and graduation was two years away, but that weekend they sorted it out.

Father and son formed a start-up business, RMA (for Rob and Matt Ayres) which today, on Matt's thirtieth birthday, has resulted in the young bloke heading a civil excavation company that continues to grow in size, and stature.

He's just taken delivery of his first Komatsu WA150 wheel loader to work alongside the two excavators he already owns.

He employs eight people, has three beautiful kids of his own, and he's working flat out because "if you don't keep going forward, you're going backwards."

Matt admits he hesitated when his dad put the opportunity to him.

"On the one hand I figured I should stick with school to completion, but he's my dad and he's always done the right thing by me."

And there was the inescapable fact that Matt was a machinery enthusiast. "It's like with cars, you're either Ford or Holden – I'm Komatsu," he said.

The first machines weren't Komatsu, but Matt acquired his skills when just months into the business he kicked his dad off the controls and took over.

"People we worked for kept telling me I had a long way to go, but I wasn't discouraged, it just spurred me on to get better," he said.

The moment of truth came on a big civil job in Geelong.

"I rocked up to the wetlands; they'd dug them out by machine and about 70 truck loads of top-soil arrived, and it was up to me to smooth it all out.

"I guess I faked it, till I made it." Matt had closely observed drainage crews working with Komatsu excavators and loaders and "I figured I had to expand into this."

He went to people he'd met in the business and they counselled him against it - "that size of operation is not for you," they said. - More discouragement.

Out of the blue, Matt became aware of a big pipeline opportunity at the Mobil Oil Refinery and he looked for an edge that would get him the job.

"I'd read about an attachment that's big in Europe, but not so much here," he said. It provided substantial flexibility, rotating through 360 degrees, tilting 45 degrees and most importantly allowed the operator to swap between bucket, hammer and hydraulic grabs without leaving the cockpit.

He took the idea, and the potential of the Mobil contract to Komatsu. "I think their first reaction was: "Yeah, right," Matt said.

"They didn't know me, but they listened and when they looked at what Dad and I had achieved they could see we had a good reputation, already."

Komatsu's Geoff Killury helped Matt get Komatsu finance for his first PC138US-11 excavator and arranged a service agreement, and Matt enthusiastically took the entire package to Mobil and won the contract.

"They loved it and told me we were working to the highest standard they'd seen."



Pictured: RMA's Komatsu PC138US-11.

Matt, the Komatsu enthusiast, had become part of the Komatsu family – which led him to his first invitation to 'Boots On', the company's biannual field day.

"It was amazing – more machines than I'd seen in one place before and I tried to drive all of them."

He fell in love with the new PC240LC-11 and the latest technologies it offers, at the same time he became aware of a major drainage contract.

Despite his passion for both the brand and the business opportunity ("You have to have a crack"), Matt has learned to proceed with caution – always involving all of the stakeholders, from potential clients, to machinery partners, to employee, in his opportunity.

"In Komatsu's case I had to convince them I'd get the contract – they don't want to sell a \$300,000 machine to someone without a clue," he said. With Komatsu's support, he pitched for the job and won it.

Initially he arranged to hire a series of wheel loaders from Komatsu to work alongside the excavator until he found the right combination, then he bought a WA150 to add to his fleet.

"I've always made money from my jobs because I have a good accountant and I've worked hard to get a good relationship with the people I work for," Matt said.

Today, just after his 30th birthday, Matt and Rob still work from the same yard and office at Lara.

Rob maintains the electrical infrastructure business which kicked them off, and Matt runs the civil side.

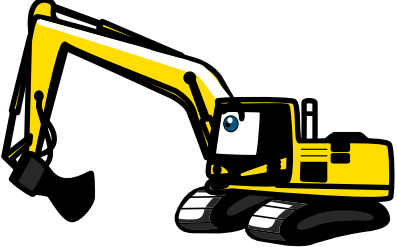
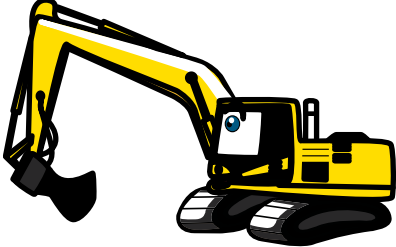

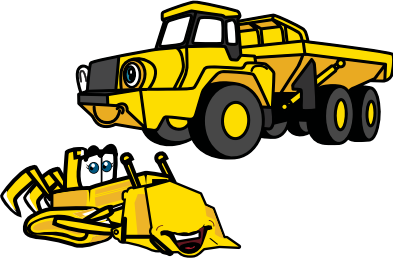
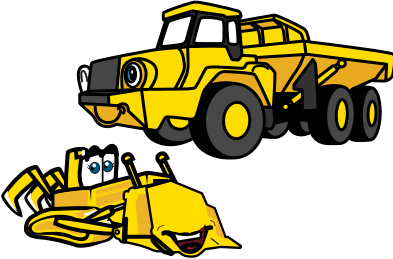
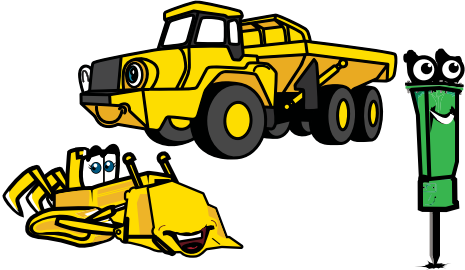

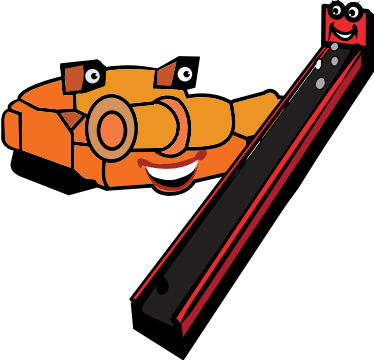

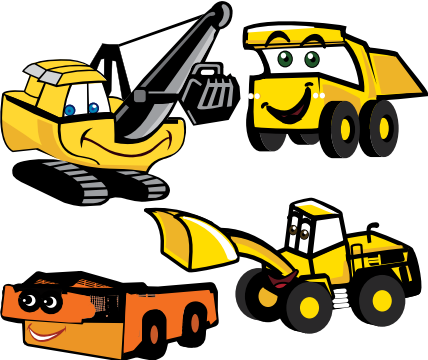
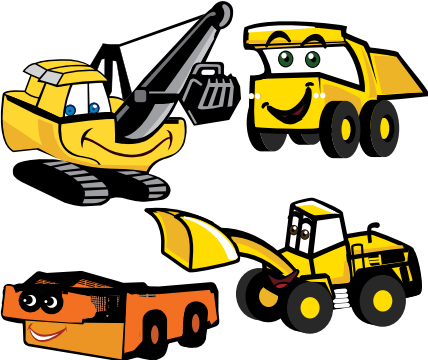
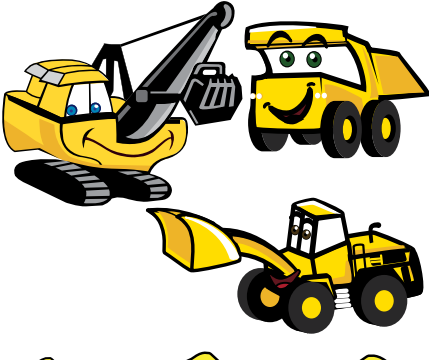
"We talk to each other every day," Matt said.

"The way I see it, he feels like he's instilled the right sort of stuff in me."

**"It's like with cars,
you're either Ford or Holden
– I'm Komatsu"**

Count the Machines

Circle the group that shows the **same** number as the first one.

Sorry Komatsu Kids we had you guessing didn't we? Some of the words listed beneath the puzzle on our find-a-word in issue 74 weren't actually there for you to find! Great job on locating most of the words and thanks for all your feedback.

Kim, Matt & Sue xx



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