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KOMATSU

4-5



COMMENTS

Thank you again for taking time out to read the latest news from Komatsu. This edition has some fantastic updates on our product range, which we are all very excited about.

I am very pleased that we have now started to launch our range of Dash 7 wheel loaders for our construction customers. I had the opportunity to jump on a WA500-7 recently and I was really impressed with the cabin layout, ergonomics and data available to the operator. Owners will be very happy with the fuel savings and increased productivity no doubt.

Other new products you can read about is our range of intelligent dozers and on the big end of the scale our largest ultra-class electric dump truck the 980E with a 363 tonne payload.

Market conditions remain buoyant in the construction and forestry sectors so we are doing everything we can to ensure we are keeping up with demand and customer service levels. I know how important this is to achieving your deadlines. Two tangible activities is our ongoing focus around the competency of our people to support you, particularly our technical tradespeople. Secondly, our focus on understanding how you are using your Komatsu's and how they are performing. By monitoring your Komatsu performance we can proactively assist you in limiting any undue downtime and helping you achieve your deadlines and cost targets. When you call we will already have access to a significant amount of information about your Komatsu's and if there is an issue it will help us to find the solution guickly and at lower cost to you. This is at the heart of our "Fix it First Time" Programme.

Obviously conditions in the Mining business and regions in general remains challenging. We are also focused on maintaining very high levels of support to our Mining customers, in particular working proactively to achieve lower cost/tonne targets.

Whatever your business accept my best wishes and please ask if there is anything Komatsu can do further to help you achieve your goals.

Sean Taylor

Managing Director & CEO

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WA500-7 Wheel Loader Release: Performance added, costs reduced

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KOMATSU KIDS

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FRONT COVER

New Komatsu WA500-7 at work.

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PERFORMANCE ADDED, COSTS REDUCED



omatsu's Dash 7 wheel loader range will increase productivity while significantly reducing fuel use, emissions and ownership costs for Komatsu customers across a range of industries.

The new WA470-7 and WA500-7 Wheel Loaders leverages Komatsu's global technology leadership and responds directly to the needs of operators and owners from the frontline of their businesses, incorporating cutting edge mechanical and digital technologies and the highest operator comfort.

Komatsu National Business Manager – Quarries Richard Feehely said the Dash 7 range would improve customer productivity while lowering the cost of ownership.

"Reducing operating costs is front of mind for Australian construction, material handling and Quarry businesses and the Dash 7's technology and efficiency react to market needs for cleaner, greener machines with exceptional performance."

Producing more power and using less fuel, the new Dash 7 wheel loaders are powered by Komatsu's Tier 4 Interim Engines, with emissions certified by EPA Tier 4 Interim and EU Stage 3B.

"WHILE INCREASING PRODUCTIVITY, THE NEW RANGE OF WHEEL LOADERS TAKES A MULTI-TIERED APPROACH TO REDUCE FUEL CONSUMPTION."

Komatsu's new engines combine next generation high-pressure common rail fuel injection (HPCR), Komatsu's Variable Geometry Turbocharger (KVGT), Cooled Exhaust Gas Recirculation technology and the Komatsu Diesel Particulate Filter (KDPF) to reduced fuel consumption and emissions while delivering exceptional performance.

Komatsu's latest SmartLoader Logic technology also plays a key role in cutting costs and maximising efficiency.

KOMATSU SmartLoader Logic constantly evaluates information on load and working conditions from sensors throughout the driveline and work equipment. It continuously modifies engine torque to ensure that no excessive engine power is used, saving fuel without impacting on production.

Other fuel saving technology includes Komatsu Auto Idle Shutdown, a dual mode engine power select system, variable displacement piston pumps and a closed-centre load sensing hydraulics that prevents loss from wasted hydraulic oil.

Komatsu's Eco-Guidance system provides live fuel saving recommendations to operators via the main screen while logging information to assist fleet managers in identifying and managing operator efficiency.

"While increasing productivity, the new range of wheel loaders takes a multi-tiered approach to reduce fuel consumption. The new range will see customers extract more from their investment," Richard said.

A redesigned cabin and dashboard offers improved operator ergonomics and a comfortable environment, with a significant reduction in cabin noise intrusion. A rear view monitoring system and large multi-lingual LCD monitor ensure visibility and functionality from any seating position.

"The new interior is representative of Komatsu's 'as standard' high level of spec, with drastically reduced noise at the operator's ear" Richard said.

"Comfort and ease of access is key to operator effectiveness and the Dash 7 is the latest word on ensuring the people who use Komatsu machines are as

happy as the people who own them."

Maintenance is made easier with Wide Core Coolers on all models, and a hydraulically driven Cooling fan which

features an automatic reverse function, to save the operator from carrying this out manually. Swing-out rear fenders allow easy access to the "gullwing" type engine doors for daily checks and servicing, as well as an extended platform on larger models with full hand rails has been added for safe access to the Engine pre-cleaners.

The Dash 7 range includes the latest version of Komatsu's KOMTRAX Equipment Monitoring system, with owner piece of mind and lifecycle costs assured thanks to three-year/6000 hour premium warranty, three-year/2000 hour KOMplimentary scheduled maintenance and 24-hour parts support.

Brief specs now available

WA500-7

Operating Weight, 36,410kg; Engine, Tier 4i Certified Komatsu SAA6D140E-6 rated at 266 kW; Transmission, 4F/4R Full-Powershift with Lockup Torque Converter; Bucket, 5.6-7m3; Breakout force, 26,207kgf; Tyres, BS 29.5R25 L5 ** VSDL radials.

WA470-7

Operating Weight, 24,360kg; Engine, Tier 4i Certified Komatsu SAA6D125E-6 rated at 204 kW; Transmission, 4F/4R Full-Powershift with Lockup Torque Converter; Bucket, 4.65-5.0m3; Breakout force 18,966kgf; Tyres, MC 29.5R25 L3 radials.



omatsu Australia has extended its innovative "intelligent" dozer range, with the release of three additional machines with a fully integrated machine control system, a system which has delivered productivity, efficiency and cost-saving benefits.

Komatsu's new intelligent dozer offerings are the D65EXi/PXi-18 (21-23 tonnes operating weight), the D85EXi/PXi-18 (29.5-30.5 tonnes) and the D155AXi-8 (41 tonnes) — which follow the launch of the D61EXi/PXi-23 in late 2014.

In addition, the new dozers are the first Komatsu machines fitted with Komatsu's ultra-low emission Tier 4 Final engines, which combine outstanding performance with reduced fuel consumption.

According to Aaron Marsh, Komatsu Australia's Technology Solution Expert Team Manager, Smart Centre, Komatsu's intelligent dozer concept allows all machines in this range to carry out both bulk and final trim dozing in fully automatic mode from start to finish, delivering final grade performance and accuracy.

"This allows them to significantly increase productivity and efficiency – up to twice as productive as dozers fitted with 'bolt-on' third party machine control systems according to Australian users and operators – while reducing the cost of each metre of material moved," he said.

Each model in Komatsu's intelligent dozer range incorporates as standard a factory-installed fully integrated 3D GNSS (Global Navigation Satellite System) machine control system.

The integrated machine control system automatically controls blade elevation and tilt according to target

design data, using common industry standard design data software and systems.

"With these machines, not only can the automatic machine control features be used for finish grading but also for bulk dozing — a capability which is unique to Komatsu intelligent dozers," Aaron said.

"Highly experienced dozer operators are reporting that with this technology, they can be more productive than they have ever been before — placing material faster and with more accuracy than any existing dozer/machine control combination."

Operators can select four different machine control operating modes to best match performance to the application, covering cut-and-carry, cutting, spreading and final trim grading.

In addition, construction progress can be checked using the integrated as-built mapping display, which collects surface data by continuously measuring actual elevations as the machine operates.



developed over many years, these new engines lower nitrogen oxides (NOx) and particulate matter (PM) by more than 90%, compared with Tier 3-compliant engines," Aaron said.

This engine technology, combined with Komatsu's exclusive Sigmadozer blade and unique automatic/ torque lockup transmission system, result in fuel efficiency improvements of between 20 and 30% per metre of dirt moved.

D65EXi-18	SAA6D114E-6 rated at 162 kW; transmission, three-speed Torqflow with lockup torque converter; maximum speed, F/R 11.3/13.6 km/h; Sigmadozer blade capacity, 5.61 cu m.
D65PXi-18	(low ground pressure version): Operating weight, 22,960 kg; engine Tier 4 Final certified Komatsu SAA6D114E-6 rated at 162 kW; transmission, three-speed Torqflow with lockup torque converter; maximum speed, F/R 11.3/13.6 km/h; PAT blade capacity, 5.78 cu m.
D85EXi-18	Operating weight, 30,590 kg; engine Tier 4 Final certified Komatsu SAA6D125E-7 rated at 197 kW; transmission, three-speed Torqflow with manual gearshift mode; maximum speed, F/R 10.1/13 km/h; Sigmadozer blade capacity, 7.2 cu m.
D85PXi-18	(low ground pressure version): Operating weight, 29,520 kg; engine Tier 4 Final certified Komatsu SAA6D125E-7 rated at 197 kW; transmission, three-speed Torqflow with manual gearshift mode; maximum speed, F/R 10.1/13 km/h; straight tilt blade capacity, 5.9 cu m.
D155EXi-8	Operating weight, 41,100 kg; engine Tier 4 Final certified Komatsu Komatsu SAA6D140E-7 rated at 264 kW; transmission, three-speed Torqflow with lockup torque converter; maximum speed, F/R 11.6/14 km/h; Sigmadozer blade capacity, 9.4 cu m.

980E ULTRA CLASS JLTRA BIG!

omatsu Australia has announced the release of the 980E-4 electric-drive haul truck, with a payload capacity of 363 tonnes.

Power for the 980E-4 comes from a Komatsu SSDA18V170 Tier 2 engine, rated at 2611 kW which in combination with GE Mining's dual IGBT electric drive system provides a top speed of 60km/h.

According to Scott Harrington, Komatsu Australia's National Product Manager, Mining, this engine provides one of the lowest brake-specific fuel consumption (BSFC) in this truck class.

Applications for this truck include iron ore, coal and other resources requiring bulk material movement when matched to large loading tools, to deliver the lowest possible cost-per-tonne.

As with other trucks in Komatsu's ultra class electric drive haul trucks range, the 980E-4 was designed and developed by Komatsu America Corp manufactured at its Peoria operation in Illinois for customers around the world.

"Komatsu was the first to introduce AC drive systems for ultra-class mining trucks in 1996, and has ever since continued to demonstrate to our customers in Australia and globally the incomparable performance and reliability that Komatsu trucks provide," Scott said.

"The 980E-4 is based on the proven high quality Komatsu design that will deliver exceptional productivity and outstanding availability over

the whole life of the asset, to provide our customers with the lowest cost per tonnage haulage option."

"KOMATSU WAS THE FIRST TO INTRODUCE AC **DRIVE SYSTEMS FOR ULTRA-CLASS MINING** TRUCKS IN 1996

"In addition to its fuel-efficient engine and Invertex II AC control group, the 980E-4 features multiple disc oil cooled (wet disc) brake design, Payload Meter 4 and frame castings in high stress areas continuing Komatsu's unsurpassed life and structural integrity of the main chassis," he said.

A number of components will remain common to Komatsu's successful and well proven 960E-2 truck being the; engine, radiator, alternator, retarder and cab. However certain major components have been designed specifically for the new 980E-4, engineered for the 363 tonne rated payload.

Major component changes include larger wheel motors, GDY108C based on the proven GDY108B design. The new wheel motor is longer to accommodate the 44" rims and includes a number of gearing and bearing design changes.

Komatsu have always maintained a simple and reliable hydraulic system and the 980E-4 continues that design philosophy. Hoist cylinders, steering cylinders and suspension cylinders have all

increased in capacity. This will enable Komatsu to maintain a known rated hydraulic system pressure and Komatsu component design life targets.

Whilst increasing the size of equipment through economies of scale can provide reductions in cost per tonne, this can only be realised by our customers if our equipment continues to provide excellent availability, enabling high equipment utilisation. Komatsu ultra class mining trucks continue to provide industry leading availability performance. This outstanding reliability allows our customers to maximise and maintain productivity targets through efficient use of loading tools, consistent planning of maintenance activities and efficient use of labour personnel.

An interesting metric a number of customers are now monitoring is the labour hour to machine operating hour ratio. The reliability features and maintenance friendly design of Komatsu electric drive trucks is providing our customers with lower labour hour to machine operating hour ratios than many of our competitors. The 980E-4 incorporates this maintenance friendly criteria including removable power module design, simple hydraulic design with one common tank, removable pump sub frame, oil cooled multiple disc brakes providing reduced brake wear and maintenance requirements compared to dry disc brakes, less lubricants than similar class trucks and advanced machine diagnostics including the Komtrax Plus satellite communication system.

The 980E-4 can also be fully integrated with

management systems such as Modular Mining's Dispatch and MineCare products

In addition, the new truck's cab brings the same comfort features and operator controls used in Komatsu's Ultra-Class trucks, including airride seats, easy-to-use instrument panel with automatic retard speed control and fully adjustable climate controls.

The new 980E-4 truck measures 8m high and weighs in at over 625 tonnes when loaded. Brief specs of the 980E-4 are: Payload, 363 tonnes (400 US tons); body capacity by design; engine, Komatsu SSDA18V170 QSK78 rated at 2611 kW; maximum loaded speed, 60km/h; braking system, 4476 kW electric dynamic retarder plus wet disc brakes front and rear; tyre size, 59/80R63(standard);

The first commercial fleet of the new 980E-4 has now begun delivery at an overseas mining operation with an initial fleet size of 30 plus units to be delivered this year. Komatsu are also working closely with a number of Australian customers for the introduction of this new model in the near future.





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s this edition of Down To Earth went to press, Komatsu Ltd announced that it has signed an agreement to purchase 100% of Joy Global Inc – a major supplier of mining equipment and services covering both surface and underground mining.

Joy Global's leading brands include P&H, Joy and Montabert, offering products that complement Komatsu's mining equipment. According to a statement from Komatsu Ltd, the two companies' products will integrate well, with Komatsu being able to offer both underground mining equipment and super large-sized surface loading equipment of which Joy Global is a leading provider.

In April this year, Komatsu embarked on a midrage management plan for the next three years under the slogan: "Together We Innovate GEMBA Worldwide — Growth Toward Our 100th Anniversary (2021) and Beyond". This acquisition is in line with the growth strategy of the plan which calls for Komatsu to strengthen its core mining equipment business in an effort to achieve sustainable growth. The acquisition is expected to be concluded by mid 2017, subject to the approval of Joy Global shareholders and necessary regulatory approvals under laws in relevant countries.



According to Michael Hall, Komatsu Australia's National Product Manager, the new PC7000 — which had its worldwide release in April 2016 at the Bauma Expo in Germany— extends the company's portfolio of loading tools in the plus 200 tonne truck classes, adding to the Global Market Leading PC8000.

"This shovel meets the mining industry's requirements for high productivity through its proven Komatsu performance pedigree — and offers lowest cost per tonne in its class," he said.

Testing in Australia has confirmed the production benefits delivered by the large bucket capacity, fast cycle time, high breakout force and excellent stability of the PC7000.

Michael said that customer input into the new shovel was a key factor in its development.

"The PC7000 mining shovel is an example of Komatsu's innovative design

philosophy and technology-driven engineering.

"THE PC7000 MINING SHOVEL IS AN EXAMPLE
OF KOMATSU'S INNOVATIVE DESIGN PHILOSOPHY
AND TECHNOLOGY-DRIVEN ENGINEERING."

"It represents the latest in mining technology, and was developed as a result of close collaboration with our mining industry partners from around the world — with

mining becoming ever more challenging, we opted for a truly customer-oriented approach," he said.

"As part of this process, our long-term mining partners were asked to define their requirements for the next generation of shovels."

"They identified safety, productivity, maintainability and performance as key drivers — and all were taken into consideration by our design and development engineers."

The design of this machine was also heavily influenced by industry groups such as EMESRT (Earth Moving Equipment Safety Round Table).

The highest engine power and breakout force in the class provide fast cycle times, combined with an easy fill bucket design, result in less time in the face to fill the bucket and reduces fuel consumption per BCM.

The Komatsu Hydropilot system prioritises hydraulic flow ensuring smooth hydraulic response, with simple system layout and reduced number of components.

Maintenance-related downtime has been significantly reduced, with the machine design providing easy access to major components, centralised service points and improved maintenance access via the location and increased width of walkways.

KOMTRAX Plus, Komatsu's industry-leading machine monitoring system, which is a standard feature on the PC7000, lets customers constantly check the operating status of their machine.

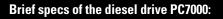
For Australian customers, all machine operational data is constantly monitored and checked at our iNSITE Fleet Management Centre in our Fairfield headquarters.

"This iNSITE centre constantly monitors data covering key machine, fleet, production and industry parameters across all Komatsu mining, construction and utility machines operating throughout Australia, New Zealand and New Caledonia, ensuring we harness the latest ICT (information communications technology) to derive maximum benefits for our customers," he said.

Production enhancing technology on the PC7000 is provided by Modular Mining ProVision, delivering advantages such as:

- » Bi-directional data transfer from Mine Planning to the machine and from the machine to Mine Planning
- » Improved bench level adherence to plan
- » Delineation of blocks and polygons to enable selective mining and ore grade consistency, minimising material waste and improving production efficiency
- » Enhanced safety via hazard alerts, restricted area identification and proximity warnings

With backhoe, front shovel, diesel and electric drive configurations already sold around the world, this product is rapidly obtaining market acceptance.



Engine - Make		2 x KOMATSU
Engine - Model		SSDA16V159E-2
Rated Power (SAE)	kW	2500
Emission Regulations		Tier 2 certified
Overall Length of Crawler Assembly	mm	10500
Crawler Length (Centres)	mm	7875
Track Pads Width	mm	1500 / 1900
Max. Propel Speed	km/h	2.5

		BACKHOE	FRONT SHOVEL
Bucket Capacity SAE 1:1 / 1:2	cum	36.0	36.0
Density	t/cum	1.8	1.8
Breakout Force	kN	1671 (ISO)	1994 (ISO)
Max. Reach (centre tooth)	m	20.4	17.7
Operational Weight	t	682.0	674.0





APPROACH HELPS PUSH DOWN SERVICE COSTS

omatsu Australia has unveiled its "Fix It First Time" concept, which ensures that customers' machine issues are identified, addressed and resolved in the shortest possible time, and on the first visit — minimising downtime and keeping repair and service costs to a minimum.

"Our new Fix it First Time service focuses on getting our customers' machine issues resolved in the least possible time, and on the first visit, ensuring downtime is minimised," said Todd Connelly, Komatsu Australia's Head of Fleet Management & ICT.

"This is part of Komatsu Australia's holistic approach to machine monitoring, troubleshooting and servicing," he said.

"Our ICT (Information Communications Technology) systems — which include KOMTRAX and Condition Monitoring Services — help to ensure that the issues arising on the machine are fully understood and diagnosed, prior to a Komatsu technician attending the customer's job site."

Todd said that this preparation, in combination with Komatsu's fully qualified in-house technicians, ensures a technician with the right skills, the right parts and the right tools will be dispatched together to get the customer's machine back to work quickly.

"OUR NEW FIX IT FIRST TIME SERVICE
FOCUSES ON GETTING OUR CUSTOMERS'
MACHINE ISSUES RESOLVED IN THE LEAST
POSSIBLE TIME, AND ON THE FIRST VISIT,
ENSURING DOWNTIME IS MINIMISED,"

"By reviewing the latest machine ICT information prior to arriving at the machine, our technicians can understand how the machine has been operating in previous days and weeks, including any abnormalities which have occurred.

'This understanding allows for diagnosis and troubleshooting to begin before leaving the branch, creating the shortest-possible path to get a machine working again," said Todd.

"This means that we are far more likely to fix the machine on the first visit, which is something that our competitors in the service space can't guarantee because they don't have access to the same skill set of reliability engineers or our advanced ICT systems.

"Our approach is that every hour the machine is not working, it is not earning money for our customer.

'Through the Fix It First Time process, Komatsu can minimise machine downtime, ultimately improving the productivity of each Komatsu machine," Todd said.

Pictured: Caitlin Sukroo, Auto Electrician

PROFILE CAITLIN SUKROO

aitlin Sukroo is one of Komatsu Australia's most recently qualified tradespeople, having completed her auto-electrical training in December last year after going through the company's Apprentice Development System (ADS) since the beginning of 2012.

Caitlin went straight into her apprenticeship with Komatsu's Mackay branch after completing Grade 12 at a local high school in 2011.

"During my time at school I did work experience with a small auto electrical business and just loved it, so I knew that's what I wanted to do," she said.

"I applied online for an apprenticeship with Komatsu, sent in my resume, then had an interview, passed my aptitude test and drug test, and was offered an apprenticeship.

"Almost straight away, I had to go to Brisbane for a four week block at TAFE, getting my white card and learning basic tool handling. For me it was a big step going out of school in Mackay then going to a big city and having to sit with a room full of strangers," said Caitlin.

"Daniel Stegman, our apprentice co-ordinator in Brisbane was always helpful with our training requirements, and he's also been a really good mentor."

Having qualified, she is now working at the Mackay branch, across all types and sizes of equipment.

"I love working for Komatsu; it's got a good name and it's a great brand.

"The people are great to work with; in Mackay we have some really good supervisors, like Darcy Dougan, who's a fantastic supervisor. And the other fitters and tradies are all really good to work with, all very supportive.

"During my apprenticeship, Komatsu also ensured I made the most of my opportunities," Caitlin said.

"For example, I was able to do some work experience in a local automotive garage, which gave me a lot of exposure to a couple of additional competencies I needed to complete for TAFE."

Caitlin is keen to stay with Komatsu for the long term; currently there is plenty of work for her and the other tradesmen in Mackay.

"I'd really like to do more field service work and diagnostics, and I'd also like to get dual qualifications as a high voltage electrician."

While she enjoys working across a range of equipment, she particularly likes working on large mining trucks, and rebuild work.

"I like working on the trucks, because they are forever upgrading them with new systems, so there's lots to learn about.

"I'D REALLY LIKE TO DO MORE FIELD SERVICE WORK AND DIAGNOSTICS, AND I'D ALSO LIKE TO GET DUAL QUALIFICATIONS AS A HIGH VOLTAGE ELECTRICIA<mark>N."</mark>

"I also like the rebuild work, which can be on anything from loaders to dozers or diggers.

"At the moment, I'm involved in some rebuilds in the workshop on 930E-2 trucks, which is the first time I've had experience on these models.

"This is a really interesting project, as these trucks are also the first in Australia to get 930E-4 modifications on their drive systems," she said.

"We've got a few of these coming up, and I'm learning a lot from them. So far we've done three, and we're now on the fourth one, with more coming up.

"The rebuild work is great, you can see something through from start to finish; they come in looking pretty rough, and go out the door in good working order," she said.



omatsu's apprentice development system combines mentoring with personal development and engagement in a range of corporate social responsibility activities with the aim of producing better tradespeople, both on and off the job.

The ADS also provides the most exciting learning experiences offered to apprentices in Australia. Apprentices are mentored by V8 Superstar Jamie Whincup, embedded with the Triple Eight Race Engineering team on race weekends, and compete in the Komatsu Apprentice Billy Kart Race.

For the third consecutive year Jamie is Komatsu's official apprentice mentor, helping Komatsu apprentices nationwide develop valuable life and work skills. Jamie takes the apprentice group through his pre-race mental and physical preparation, the role of team work and the trust he imparts on his crew members to get the job done.

Groups of apprentices are welcomed into Triple Eight Racing's pit areas, learning the details of the race cars and asking questions in the team's mobile workshops.

Last year apprentices from Komatsu's Wacol and Gladstone branches were trackside for the Castrol Gold Coast 600 on the streets of Surfers Paradise. In New Zealand, apprentices from Auckland and Christchurch attended the ITM 500 Auckland at Pukekohe Park Raceway.

Second-year apprentice at Komatsu's Auckland branch Slaine Sharrock spent the weekend at Pukekohe fitted out in Triple Eight team clothing and working with the crew to help it to an historic Whincup/Lowndes 1-2 finish.

"I was lucky enough to be offered the chance to go back to the pits with the Triple Eight Race Engineering Team to not only watch but also help with the weekend's racing," Slaine said.

With Craig Lowndes blowing a tyre in practice and taking damage, Slaine assisted as the team worked overnight without pause to rebuild the car from wreck to race-ready.

"I was blown away by how hard this team worked together to get this daunting task completed in time for the race. I will never forget the experience," he said.

The Komatsu Apprentice Billy Kart Race had its inaugural run following the Perth SuperSprint in early May when the 2016 apprentice group faced off against Supercar Team Championship leaders Triple Eight Race Engineering at Barbagallo Raceway.



Pictured: Jamie Whincup and Apprentices.

our success

Paring the mechanics of high performance back to their simplest level, the race has a simple set of rules. Two karts and two drivers sit on the grid. Four 'pushers' build each kart's momentum to a cut-off line, where they must release. The karts then race 400 metres downhill to the finish. Karts are tuned before being sent out again to improve on their last run.

Team Komatsu Apprentices clinched the win, blitzing the West Australian tarmac to beat Triple Eight with a lead of just 15 centimetres in the final round.

Jamie said he was pleased to grab the win and see the apprentices come together for the race.

"The Kart Race requires teamwork, analysis and a focus on constant improvement. It's a great place to get hands-on, work under a bit of pressure and bond with a close-knit team," he said.

"Billy-cart racing looks simple. When you get into it, winning is harder than you think."

Komatsu national apprentice development manager Gavin Manning said the kart race and the apprentice development system (ADS) produces engaged, confident and motivated people who want to achieve.

"The Apprentice Billy Kart Race is great fun but it is also connected to valuable learning outcomes," he said.

"Equipment is only part of what we deliver to our customers. Komatsu develops people-powered technology and we are driven by success. Creating satisfied, self-aware tradespeople puts us in the best possible position to service evolving customer needs."

The Komatsu Apprentice Billy Kart Race series will also take place in Brisbane, Sydney and Melbourne and involve Komatsu apprentices in each state.





The dozer was purchased by Victorian-based plant hirer Cable Logging in early March following a two-week trial, and is being used for bulk spreading and final trim of a sand and clay capping layer on a landfill site.

third party machine control system.

Operator Travis Ryan, who's been driving dozers for the past 10 years, described the dozer as "very easy to operate – the best dozer I've ever driven".

Komatsu's D61EXi -23 is the first in a new range of "intelligent" machine control dozers from Komatsu, incorporating the industry's first fully automatic integrated blade control system.

This allows it to carry out both bulk and final trim dozing in automatic from start to finish to final grade accuracies, significantly increasing productivity and efficiency while reducing the cost of each metre of material moved.

And the completely integrated machine control system means there are no cables or add-on units which can become damaged or stolen.

Cable Logging's D61EXi-23 is on hire to contractor Fulton Hogan to carry out the placement, spreading and final trim of the select fill layer at Melbourne's Heatherton landfill rehabilitation works, prior to placement of the geofabric layer and subsequent 700 mm lift for the final surface.

According to operator Travis Ryan, the dozer is allowing him to be more productive than he's ever been on a dozer before, placing material faster and with more accuracy than existing dozer/machine control combinations.

"The way this machine is designed, it's basically a grader on tracks," he said. "I can push and rill out material in two passes what used to take me many more passes."

The dozer, which works in tandem with another slightly larger dozer fitted with a "bolt-on" machine control system, is pushing out and trimming a 200 mm sand

layer over the final garbage layer. It then pushes out and trims a 100 mm clay capping layer.

"The trucks bring in sand and dump it, I push that out with the Komatsu, they roll it, and I trim it out, they compact it again, then I push out and trim the final clay layer," said Travis.

"I find the dozer trims out very easily, it's very easy to do the final layers.

"It's also very accurate; I'm getting within 5 mm. The job specs require me to get within ±50 mm, but I'm getting 5 mm so they are very happy," he said.

"And most of the job I can do without a grader, I can just do it myself with the dozer using its auto back-blading feature.

"What I like about the dozer is how everything is integrated with the controls, so it's very easy to use, while the fully automatic operation saves a lot of heartache," said Travis.

"Basically everything I'm doing is automated, from the bulk pushing out to the final trim.

"The set up of the automatic dozing system is very good; you don't have to keep watching a GPS screen – you just have to watch your steering and line-up where you are going.

"And it's certainly big time more productive than a standard dozer; I can push out many times more than a non-machine control dozer during a day."

Travis on the D61Exi-23 is working alongside a slightly larger dozer fitted with machine control.

"This other dozer is probably a bit better at bulk pushing with its bull blade, but the way the Komatsu is set up, I don't really have to fill my blade to push out," he said.

"Instead with the auto system, I can get a half blade load and as I'm pushing out, I'm also trimming at the same time.

'So I just go up to a stockpile of sand, push it out a bit higher than my final level and adjust from there.

"I find I can rill it out much quicker this way, and I'd easily be twice as fast as the other machine control dozer." he said.

"The surveyor on site is very impressed with what we are doing.

"They are doing their own pickups around the site, but they are happy to accept readings off the dozer; when they want to check a level, I just put the blade down and read it off for them," said Travis.

Cable Logging owner Tim Christian said he decided to look at the Komatsu D61EXi-23 so he could take advantage of the latest technology.

"I looked at this machine, plus some other brands, and we found during the trial that its performance, particularly with the automatic blade control, was really good," he said.

"And being hydrostatic drive, I think the power transfers better to the tracks than other machines; it certainly pushes very well for the horsepower.

"Certainly we could have gone for a conventional dozer and added on a separate machine control system, but this is giving us better performance," said Tim.

"From our point of view, the machine is performing very well, and the client is very happy with it."

Cable Logging has been a long-term customer of Komatsu, since it was established as a logging contractor working in the Gippsland forestry industry in 1983.

In recent years, it has moved more into civil works, and offers wet and dry hire of excavators and dozers throughout Victoria.

In addition to its latest D61EXi-23, it runs a D51EX-22 and a D65EX-15EO, along with seven Komatsu excavators from PC138MR-8 to PC450LC-8.



Pictured from Left: Dean Jones, Komatsu Business Development Manager, Paul Chenery, Major Accounts Manager, David Makila, Austeire Services, Wafaa Ghali, National Marketing Manager, Ian Donaldson, KID Land Development, Robert Hazell, Hazell Bros, Paul Platters, Simcoa, Curtis Bateman, Komatsu Business Development Manager. Back Row, Ieft: Charles Wheeldon, Komatsu National Construction & Utility Manager, Chris Moroz, NSW Sales Manager, Mick Lupson, EarthTek Excavations and Matthew McLaughlan, Hirepool NZ.



Pictured from left: Dr Norbert H.H.Walther, President & Managing Director, Komatsu Mining Germany, Wafaa Ghali, Marc Blondeel, European Product Marketing Dept & Anthony Cook, Vice President Business Development Modular Mining Systems at Komatsu's mining stand.

THE WINNERS FOR THE KOMATSU 50 YEARS COMPETITION WERE DRAWN ON 1 FEBRUARY 2016: HIREPOOL NZ, EARTHTEK EXCAVATIONS (VIC), HAZELL BROS (TAS), KID LAND DEVELOPMENT - ALPHA (QLD), SIMCOA (WA) AND AUSTEIRE SERVICES (NSW).

harles Wheeldon, Komatsu's National Manager Construction & Utility, and Wafaa Ghali, National Marketing Manager hosted this year's Komatsu Study tour to Bauma in Munich Germany. This was a special tour as it included the Komatsu 50 years competition winners from Australia and New Zealand: Hirepool NZ, EarthTek Excavations (Vic), Hazell Bros (Tas), KID Land Development - Alpha (Qld), Simcoa (WA) and Austeire Services (NSW).

This is the 32nd Bauma held and takes place every three years in Munich. It is one of the World's Leading Trade Fair for Construction, Building Material and Mining Machines and Construction Vehicles and covers over 555,000 sq metres. There were 3,423 exhibitors from 58 countries and around 580,000 visitors from 200 countries. This year's expo was held from 11-17 April, 2016.

Komatsu Europe exhibited on two stands showcasing 30 Komatsu machines on a total of 7000 sq metres. The Komatsu stand theme was Technology for your Success and during the exhibition, Komatsu launched several new intelligent machines, the new PC7000 mining excavator as well as industry leading Komatsu technologies for products and services which highlight Komatsu's continuing focus on innovation and its commitment to improve job site efficiency.

Over 350 independent Australian contractors also travelled to Munich to attend Bauma for the opportunity to see the latest products and services, as well as experience the sites and sounds of Munich - the capital of Bavaria. This city is home to centuries-old buildings and numerous museums and is renowned for its annual Oktoberfest celebration and cavernous beer halls, including the famous Hofbräuhaus, which was founded in 1589 and is still the most popular destination for tourists.



ABOUT KOMATSU FINANCE'S "STARTUP **POLICY**" **FOR NEW EARTHMOVERS**

omatsu Finance has recently implemented a startup finance policy for applicants looking to enter the earthmoving industry with a new Komatsu machine.

Under its startup policy, Komatsu Finance will lend up to \$200,000 to potential purchasers of a new Komatsu machine, provided they have been working in the industry for four or more years, and meet Komatsu Finance's lending criteria.

Finance is available for a maximum of five years, with GST to be repaid upfront and no "balloon" payments.

According to Chris Favotto, Komatsu Finance's Business Development Manager NSW/ACT, this startup policy has proved popular with new-entrant owner-operators.

- "Since we began offering this about 12 months ago, we have been able to assist many new entrants into the market purchase their first Komatsu machine," he said.
- "There have been instances where new customers have gone to their bank, but have had their loan application rejected as they are a startup business.
- "After some discussion with us, we have then been able to approve a loan facility under our startup policy, allowing them to purchase their first Komatsu machine," Chris said.





ydney-based owner-operator
Dominic Sammut took advantage
of Komatsu Finance's "startup
package" when purchasing his first
machine – a Komatsu PC138US-8
excavator – and starting off his own
business in September 2014.

Since starting in business, most of Dominic's work has been through major Sydney contractor ABAX Contracting, primarily carrying out subdivision work in the western suburbs, covering the whole range of works including bulking out materials, drainage, general earthworks and loading trucks.

Attachments for his machine include a set of buckets, a hammer, a ripper and an auger.

Dominic – who is the son of Sydney earthmoving identities Felix and Pauline Sammut – had been operating machines for other contractors for eight or nine years, and decided to start up on his own.

"I'd been operating for other people for a few years, getting experience in the industry, and decided to take the plunge," he said.

"I'd mainly operated excavators, but also skidsteers, backhoes and trucks.

"I'd operated a few Komatsu machines, as well as other brands, and the Komatsu excavators stood out in performance; they seem to last longer and are better quality," said Dominic.



Pictured top right: Jaime Alden, NSW Account Manager with Dominic Summut at a Western Suburb sub-division.

"When I priced up all the machines they were pretty on par with price, so, I thought, 'If that's what I want and they're the same sort of money, I may as well go with what I want.'

"I've been very happy with the machine; I've never had a problem with it," he said. "It's (as of December 2015) got just over 2000 hours now, and I haven't had a drama.

"Actually I did have a bit of trouble – somebody broke into it and vandalised it after about four or five months of owning it – so I rang up Komatsu and they came out that day, saw what I needed and got it going the next day.

"So I was really happy with that.

"I lost two days because they were fixing it the second day, but for what they did for me – it's not a common part, which they had to ship down overnight from Queensland to get it going for me – so yeah, I was happy."

Dominic said that starting up his business through Chris Favotto, Komatsu Finance's Business Development Manager NSW/ACT, was very straightforward.

"Chris was good to deal with, and now I just pay the money each month and that's it," he said.

Dominic also promotes his business through Facebook, and can be found at: https://www.facebook.com/Sammutexcavations/?pnref=lhc.



ust on 12 months ago, Victorian Alpine region contractor D & T Edmondson Earthmoving's then brand-new PC130-8 excavator went to work on its first day around the Snowy Mountains ski resort of Falls Creek.

Owners David and Toni Edmondson took delivery of the machine — which replaced a PC120-6 they'd had for nine years — in August last year, and straight away put it to work at Falls Creek ski resort, clearing snow away from the front of lodges.

Their company does a lot of work for Falls Creek Resort Management, both in winter and summer, working around lodge sites and carrying out drainage and general construction and maintenance works during the non-snow months.

During the winter it's on call to assist with snow clearing activities to ensure safe access for staff and guests on the resort.

Aside from his Falls Creek work, most of David's work is around the Tawonga region working for farmers, contractors, Alpine Shire council, AGL and Southern Hydro.

"We do a lot of work for farmers also work in switchyards, working with various other contractors, plus we do plenty of drainage works for the Alpine Shire Council," he said.

In addition to the new PC130-8, their company also runs a second PC120-6 excavator, along with trucks and trailers for carting materials, and transport the excavators.

David has son Adam plus another operator lan Stokes working for him, hiring in other operators or workers as required, or bringing in additional contractors.

He has been running Komatsu excavators since starting his business nine years ago.

"Before I started my business, I'd worked for a company that owned Komatsu machines, and when my boss retired, I purposely looked for Komatsu, because I knew the brand.

"I'd also built up a good relationship with Brendon Piera, our local Komatsu Customer Support Sales Representative," David said.

"I've been very happy with them ever since. Chris Trenery in Wodonga has been very helpful, and I've been very happy with the service and support.

'We do most of the servicing on our older machines, but with the new one Komatsu does that as it's covered by Komplimentary Maintenance.

"I'm very happy with that aspect of the support package, because if you're not spending money on maintenance, that has to be good — and it's extra servicing work I don't have to do," he said.

"I just let them know when the next service is due based on the machine hours, but of course with KOMTRAX they know when it's coming up anyway.

"Warwick Benton, Komatsu's field service mechanic from Wodonga knows all my machines, he remembers everything he's ever done, he goes out of his way to help, and I get on really well with him.

"That's what I like about working with Komatsu Wodonga, it's very much a personalised service," said David.

When he got the new PC130, David sold one of his PC120-6s to buy it.

"I'd bought that machine from Komatsu as a used machine with 4000 hours on the clock, and it had close to 15,000 when I sold it. "It was a brilliant machine; I loved it. In fact, I didn't want to sell it, but three machines were too many for me, and it was getting a bit old for a contractor's machine."

"But it went to a good home, to a local farmer in the Kiewa Valley."

David said his decision to buy his latest Komatsu was due to his past record with the company, an interest rate of only 3.6% through Komatsu Finance – plus the price was lower than he expected.

"I wanted to stick around the 12 tonne size, that's what my business is built around, so I didn't want to go any bigger."

Attachments for the new machine include a grab, compaction wheel, various buckets and rippers, plus a Millwood tilting hitch.

"I love that tilting hitch; it's really good because it works!"

"It's strong, it does everything I need it to do. I do a lot of housing sites, so for cutting batters, etc it's really good."

While David is the main operator of the new machine, son Adam drives it a fair bit as well.

"We reckon it's a very good machine, it's very comfortable and quiet, and does all I need it to do.

"It's got good fuel consumption — it's not using any more than the earlier machine, but it's got more digging and breakout power."

"I also like the fact that when I'm doing final cuts on house sites, I can go into the computer and cut back the speed to fine control, which makes lot easier for that fine control work," said David. larke Machine Hire – one of New Zealand's largest equipment hirers – has an overwhelmingly Komatsu fleet for a whole host of reasons: machine quality and reliability, customer acceptance, service and support, resale value, safety features and the KOMTRAX remote monitoring system.

The company owns more than 300 Komatsu machines, including excavators, dozers, graders, articulated dump trucks and rollers out of a fleet of around 330 machines — and is now standardising on Komatsu across all machine types (rollers are purchased out of Japan), says owner Paul Clarke.

Based in Dunedin, with branches in that city, along with two in Christchurch and one in Cromwell, the company hires equipment to contractors and mining companies throughout the South Island, as well as to mining operations in the North Island.

Clarke Machine Hire has become one of the biggest Komatsu owners in New Zealand, since it bought its first Komatsu machine in 2003, and its first new Komatsu in 2006.

The company started up in 2001, and according to Paul, the key to its success has "been buying the right gear".

"The business model we've used since we started has been to create our own used equipment fleet to sell as we go along," he said.

"Particularly with our excavators, we don't run them to high hours; we put them on the market when we get to 2500-3000 hours. People are happy to buy low-hour excavators and we get a good following for hiring out late-model low-hour machines."

Paul has continuously bought Komatsu since his first new one in 2006, and as he says, "there's not much in our fleet today that's not Komatsu".

There are a number of reasons for this.

"We have a very good local sales representative, we get good backup and information from Komatsu New Zealand and Japan — we run our own workshops and they give me all the information I need — and they are a very good product," he said.

"I do get very good support from Komatsu Japan, which is where I purchase my Komatsu rollers — which aren't sold in New Zealand — plus I buy used Komatsu graders out of Japan, and I have the full support of Komatsu NZ in this.

"I'm basically standardising on Komatsu because I find it easiest to have everything under one roof.

"It would be pretty hard for me to change due to the level of support I get from them," he said.

Paul's most recent purchases since December 2015 have been three PC30MR-3s, five PC55MR-3s, four PC88MR-8s, five PC138-8s and three PC130-8s, two PC228LC-8s and a PC450LC-8.

"We'll probably get a new Hybrid HB215-1, to add to our existing HB215 and HB205-1," he said.

"We're getting a good following for the Hybrids. As we are all dry hire, customers pay the fuel costs, and so they get the flow-on effects with the fuel savings.

"They are a really good machine to operate — operators love them — and the fuel savings, particularly in remote areas, mean they don't need to cart so much fuel in. Typically our customers are getting 15-20% fuel savings with them."



Pictured: Paul Clarke, Owner of Clarke Machine Hire.

A key reason for Paul now standardising 100% on Komatsu excavators has been their in-built safety features, particularly the factory fitted hydraulic anti-drop valves.

As of the beginning of April 2016, following legislative changes, drop valves have become a requirement on many excavators in New Zealand – both new and used. This can mean having to retrofit drop valves – at some expense – to non-complying machines.

"Komatsu machines come fully specced with all safety requirements, including drop valves on their excavators, and have done so for years. So complying with these new requirements has cost me nothing," he said.

"Other suppliers haven't been selling their machines with drop valves, so lots of other owners have been having to retrofit them to existing machines, which is another cost for them.

"We have five excavators still in our fleet without drop valves, but we are about to get rid of them, and we'll be replacing them with our latest order of Komatsu machines."

As a machinery hirer, Paul is a huge fan of the KOMTRAX remote monitoring system.

"KOMTRAX is amazing! I use it all the time," he said. "It's just a must for a hire company.

"We can see when machines are due for a service, if they have any faults, where they are located, how they are being operated – we can look at everything.

"We've had machines stolen, and got them back the next day thanks to KOMTRAX – and other people's machines were at the same place!

"I am constantly looking at KOMTRAX reports every day, so I can really see what's going on. I pretty much couldn't run my business without it," Paul said.

KOMATSU LEGACY AT CENT ZINC

t its peak, it was Australia's largest open-cut zinc mine, but in September 2015, the final ore was mined at MMG's Century mine in north-western Queensland – and throughout its 16-year lifespan, Komatsu products and services played a major role in the mine's success. In this two-part feature, we firstly look at the Komatsu equipment used at Century and, in the next edition of D2E, we'll look at how the pioneering service and maintenance contracts put in place at the mine have become the basis for Komatsu's customer support offerings today.

Located at Lawn Hill, 377 km north-west of Mount Isa in the Lower Gulf of Carpentaria, Century was Australia's largest open-cut zinc mine; it began open-pit production in 1999 and 2015 saw its final year of production.

During its 16 years of operation, Century produced and processed zinc and lead concentrates at Lawn Hill, with product then transferred in slurry form via a 304 km underground pipeline to Century's Gulf port facility at Karumba for shipping to smelters in Australia, Europe and Asia.

And Komatsu equipment was on site for the initial infrastructure works, followed by clearing of the natural surface layer to get to the ore body below — with many of those original machines still there until final mining operations.

According to Peter Hayward, Komatsu Australia's Major Accounts Manager for North Queensland — and someone who's been involved with Century during most of its history — at the mine's peak in 2010, there was a total of 54 pieces of Komatsu equipment on site, consisting of 46 trucks (thirty-eight 830Es and eight 630Es), three wheel loaders (a WA320, WA380 and WA500), and five excavators (PC3000, PC2000, two PC1800s and one PC1250).

Some of that equipment has stayed on site and will remain operational there for the mine's rehabilitation program, which will extend over the next two or three decades.





agreement ceased

The processes put in place and the lessons learnt from what was Komatsu's first major maintenance and repair contract (MARC) in Australia helped form the "launch platform" for the company's market-leading offerings in maintenance, service, fleet management and safety that are in place today.

In the lead-up to the mine's opening in 1999 (the year of its first shipment of concentrate) Komatsu - then known as NS Komatsu – won a contract to supply mine owner (at the time) Pasminco with eight 630E dump trucks, four WD900-3 wheel dozers, as well as some smaller items of equipment for infrastructure and cleanup work.

It also supplied a Demag H285s excavator (later rebadged as a Komatsu PC3000), and various Ingersoll-Rand blasthole drill rigs (for which NS Komatsu was the dealer at the time).

These were delivered to the mine site for assembly and commissioning from May 1998.

In addition, the company had a major contract to carry out all on-site repairs and maintenance - not only for Komatsu-supplied equipment, but for other makes as well.

To carry out development and initial mining, contractors Roche Bros and Eltin formed a joint venture, known as the Roche-Eltin JV, which used the equipment supplied to the mine owner. This JV remained on site until 2005, when the mine owners took over mining and the equipment.

In addition to the original 630E trucks, Peter Hayward said other Komatsu trucks to see service at Century included five 830Es purchased used in 2004, a further five 830Es also purchased used in 2007, and twelve 830Es purchased new in 2007.

"There were also a number of diggers purchased over the life of the mine, including two new PC1800-6s bought in 2004, a PC2000-8, PC3000-6 and a PC1250-8R purchased in 2008," he said.

"In particular, those PC1800s have been remarkable machines; one of them has done over 51,000 hours over 11 years, which is a real credit

In 2008, Peter was in charge of a rebuild program for six of the original 630E trucks.

"These were incredible machines, and we rebuilt them at around 54,000 hours," he said.

"We stripped them all down to the bare chassis, sand-blasted, crack-tested and line-bored them, and upgraded, repaired or changed out components as necessary.

"This investment certainly paid off in terms of productivity and longevity of the trucks.

'The trucks kept operating until close to the end of the mine's life, each logging between 70,000 and 80,000 hours as of late last year."

As the mine operations began winding down in early 2015, surplus equipment was progressively parked up, and either cannibalised for parts to keep other units working, or cut up for scrap.

"However, there are still around six 630E trucks staying on site for the mine rehabilitation program over the next few decades as required.

"The longevity, reliability and availability we got out of the equipment at this site, whether trucks or diggers, is testament not only to the quality of our equipment, but also to what can be achieved with proper fleet maintenance scheduling," Peter said.

"It's also a tribute to the national and local support Komatsu Australia was able to supply to the mine over its 16 year life span, across quality of component rebuilds, truck refurbishments, spare parts, technical service and back up.

"The company has been able to work closely with our clients to help increase the reliability, availability and productivity of each of their Komatsu investments throughout this period.

"Personally it has been a privilege to able to be a small part of this.

"Will there be another Century Mine, I would love to think so!" he said.

Part 2 continues edition 69 of D2E.



Pictured: MT Thorley Warkworth fleet manager Daniel Burford (left) and Komatsu high voltage electrician Lindsay Corry (right).

ost pressures and challenges in Australia's mining industry mean that mine operators are under increasing pressure to "do more with less" – which includes getting the most from existing equipment even as it ages.

The challenge for miners is to ensure that production doesn't suffer even as equipment hours extend well beyond has traditionally been regarded as their normal design life.

An example of this trend is Rio Tinto's Mt Thorley Warkworth (MTW) mine near Singleton in NSW.

"NOW WE ARE AIMING FOR 120,000 HOURS, AND WE THINK WE CAN DO THAT COMFORTABLY, ENGAGING WITH KOMATSU TO HELP WITH THE MAINTENANCE AND REPAIR PROGRAM ON THE CHASSIS AND FRAMES.

MTW operates a mixed fleet, including 47 Komatsu 830E haul trucks — with part of that makeup being a fleet of twelve 830E DC drive trucks delivered in 1996 under a Repair and Maintenance Contract (MARC) with Komatsu Australia. MTW is currently running 11 of the 12 original trucks.

This MARC concluded in 2009 at 60,000 hours, with maintenance of the fleet then taken over by MTW's Maintenance Department.

Careful management of the trucks' repair and maintenance program has meant 11 of MTW's 830Es are now on track to achieve at least 120,000 hours.

According to Craig Burgess, Komatsu Australia's Branch Manager at its Mount Thorley Branch, this push to



significantly extend equipment life is very much a "sign of the times".

"Historically, customers would operate trucks such as these for between 60,000 and 75,000 hours before changing them over for new machines, but market conditions have forced them to look at ways of extending that significantly," he said

Simon Triggs, MTW's Mobile Maintenance Superintendent, said that managing the 830Es to extend their life out to 120,000 hours was aided by a number of factors, including rigorous inspection and maintenance procedures by the mine, a long-term relationship with Komatsu, and the reliability and durability built into the truck chassis and frame.

"Because we'd had the trucks for a long period, and had ongoing support from Komatsu over that time,

KOMATSU # COLLABORATION

we found it very easy to work together to develop a strategy to work out what we needed to do to extend the trucks' chassis lives," he said.

"We repowered the trucks in 2010-2011, and at the same time stripped each of them down to the chassis, then refurbished any areas that were cracking or rusting.

"We then repainted and assembled the trucks, and then continued the processes we'd applied from when they were new, including learnings Komatsu shared with us as well as those we'd gained from our site operations.

"When we did the repowers at 60,000 hours, we were confident we'd get to 110,000 hours for the trucks," he said.

"Now we are aiming for 120,000 hours, and we think we can do that comfortably, engaging with Komatsu to help with the maintenance and repair program on the chassis and frames."

Simon said MTW also had experience with other brands, and had found that Komatsu machines seemed to be able to get over 100,000 hours easier than others — although he cautioned it still took discipline and work to get there.

"An important factor is the simplicity of the Komatsu frames and systems, which makes them easy to manage and therefore to push out the projected life. But a good chassis is the necessary base to start with."

He said changing industry conditions had been a contributor to efforts to significantly extend the life of the trucks.

"When we did the repowers in 2010, we had a view to keep using the trucks, and get the extra life to take them out to 110,000 hours.

"At the time, we could see the chassis were in good condition, plus we have the advantage of a tight pit and a good layout."

While Simon describes MTW's pit as "challenging" – that is a factor that has actually worked to the mine's advantage in extending equipment life.

"Because we have got a challenging pit, due to the amount of material we have to move in a tight site, we have always had a focus on costs and fleet performance — and that is what drove some of our behaviour.

"At the time of doing the repower in 2009, we asked

ourselves: instead of spending \$100 million on a new fleet, could we spend \$20 million, push the trucks to two engine lives, and get another 10 years from them?

"We were confident we could achieve that, because of our fleet management capabilities, our site conditions, plus how well the chassis are built.

"Now with the current market conditions in the industry, we are pushing components a bit, and because of the conditions the chassis are in, we are in good position to get to 120,000 hours," he said.

MTW has a rigorous inspection and checking program in place, which includes:

- » Having equipment inspectors fully check each machine between service intervals
- » Carrying out thorough inspections each time
- » Using comprehensive service sheets designed to ensure inspectors are checking the right areas, ensuring that each truck has been maintained properly and is still in good condition.

"This whole process involves working closely with Komatsu and ensuring our service sheets are followed properly," said Simon Triggs.

Komatsu's Craig Burgess said that what MTW was achieving with its eleven 830E DC trucks was an excellent example of how mining companies and OEMs could work together to significantly extend equipment working life, and substantially reduce capital equipment costs.

"Every mining company bought a lot of equipment during the boom period, and they have all continued to run these," he said.

"However, now with the drop in the coal price, there is no longer any capital expenditure budget to buy new machines, so they have to manage existing machines for a longer duration.

"Having said that, if you service your Komatsu machine as and when you are supposed to, if you use Komatsu genuine parts, and if you take advantage of our service support offerings, there is a good chance you can successfully achieve significant extensions of machine operational life," said Craig.



ational mining contractor Toll Mining Services (Toll) has demonstrated the value of a rigorous preventive maintenance program when it recently achieved a significant milestone of more than 30,000 working hours on two Komatsu WA900-3 wheel loaders with no major component change-outs during that time.

The loaders are part of Toll's fleet of equipment located in the Bowen Basin and are primarily used for the loading out of coal stockpiles and other general loading and clean up tasks onsite.

Daniel Ellerton, Customer Support Sales Representative at Komatsu's Emerald branch has commended the achievement.

"Reaching 24,000 hours before doing a major component change-out would be considered exceptional, so achieving over 30,000 hours is a real credit to Toll's maintenance procedures, practices, and Toll's maintenance team," he said.

For its part, Toll has been very impressed with the longevity of the two Komatsu loaders achieving the 30,000 hours which can be accredited to a number of factors, including:

- The Komatsu WA900-3 loaders have proven to be reliable machines that are relatively easy to work on
- Toll's rigorous maintenance program, supported by management as well as a competent team of fitters, mechanics, and experienced operators.

Every two days the loaders (and Toll's other equipment onsite) are pulled up for a 50-hour inspection, a process which takes about 40 minutes per machine.

The equipment receives new air cleaners, are greased and checked for any unusual movement, wear, and cracks.

Toll's maintenance team also checks tyres, reverse beepers, lights, seatbelts, and warning lights. Any safety-related problems or faults identified are fixed immediately and the remainder fixed at the next service.

Toll's management and maintenance personnel are on site all the time and if they see an issue with a loader, they pull the operator up and assess any issues.

If there is a grease fault, the machine is shut down immediately; if the operator identifies any system faults, the workshop is notified immediately.

Minor components on the WA900s have been replaced over the years, primarily as preventive measures before failure. These include the engine mount dampeners, turbochargers and steering rams.

WA900 transmissions typically require replacement at approximately 16,000 hours; however in the case of its two machines, Toll has managed to successfully maintain these components until 30,000 hours.

Toll's team onsite relies on two key factors to keep the loaders running smoothly: its daily maintenance program and ensuring that the same operators are in the equipment every day where possible.

Toll's Maintenance Supervisor onsite has stated that there is a high commitment on the part of Toll's management team to keeping its equipment as well maintained as possible.

"We need to keep them maintained to ensure we get the reliability we need to keep them going 24/7," he said.

KOMTRAX

FINDS STOLEN PC45MR-3 MINI





ith 20 years' experience in construction, Matthew Nicolson of Nicolson Projects has a track record of getting things done right, and on time.

Suffering his second machine theft in two years in early May, the potential for inconvenience and downtime presented issues any business would want to avoid.

"We mainly do subdivisions, new car parks, drainage, also oval construction and green space work," Matthew explains.

The focus of the Nicolson Projects business is quality, safety and meeting client demand.

With a small fleet of a dozen machines, Nicolson Projects works its gear hard and rarely has the luxury of downtime.

When Matthew arrived on site in south-west Sydney on a Wednesday morning at 6:30am, he was greeted by an unwelcome space where his Komatsu PC45MR-3 mini-excavator had been parked the day before.

Having lost a vital piece of gear to thieves in 2015, Matthew was all too familiar with the sinking feeling.

"The machine is working nearly all the time. I mean, you have them because you're using them constantly. When something like this happens it can be a real inconvenience," Matthew said.

"It's terrible. If you have things insured you get there at the end of the day, but you always lose out."

Knowing the digger was KOMTRAX-equipped, Matthew phoned his Komatsu rep to see if anything could be done.

Relaying the information to the KOMTRAX command centre, the machine was pinged and located at an address 40 kilometres north of its last known location.

Narellan police were contacted with the information, and by 11am the excavator had been recovered by detectives. By late afternoon it was back on site, ready for the next day's work.

"Police staked out the house till the bloke came back and they arrested him. I was able to pick the machine up that afternoon; they came out and did forensics on it on site.

"The best part of it, at the end of the day, is that the bloke was arrested. Thieves are getting busted. If you can get that information out that they are getting caught, it acts as a deterrent."

The situation also worked out to be a win for a fortunate truck owner/driver.

"The bloke who stole it used a stolen truck to take the machine. Because of this situation the truck owner was able to get the truck back as well."

Matthew sees the theft as a subtle nod to Komatsu's quality and is happy to have the machine back in the fold working.

"I had six other machines; they had to go around all of them to steal the Komatsu.

"I was very pleased. It was my first experience with KOMTRAX and the machine was a good one so I am stoked to have it back," he said.

"Last year, I had a tracked skidsteer stolen and never recovered. But in this case, Komatsu had a signal straight away with a 100% confirmed location to give to the police — which they used to recover the machine very quickly. The KOMTRAX team kept me informed through the process and it was a good result from a bad situation," said Matthew.



AT YAGAHONG ALLIANCE

t the beginning of March this year, Komatsu Australia's Perth branch officially handed over a new WA600-6 wheel loader to the Yagahong Alliance, a joint venture between Yugunga-Nya People Pty Ltd and Central Earthmoving Pty Ltd, based in north Western Australia.

The Yugunga-Nya People are the Traditional Owners of lands within the Eastern Murchison region of Western Australia, and Central Earthmoving is a progressive and growing company with over 30 years' experience delivering and supporting civil earthmoving and mining services in regional Western Australia.

In July last year, the Alliance began a two-year contract for site services and ROM pad management at Sandfire Resources NL's DeGrussa Copper Mine in July 2015.

Following successful trials using an older very high-hour Komatsu WA600LC-6 loader — which showed it was able to outperform two loaders of another make previously required to carry out the work — for the ROM pad management elements of the contract, the Alliance ordered the new WA600-6.

It was handed over to Yagahong Alliance founder Ron Shay and Central Earthmoving Managing Director Craig Patterson on March 1 by Dean Jones, Komatsu Australia's Business Development Manager, Murchison and Midwest.

"Ron and Craig were highly appreciative of our efforts in supplying and handing over this new loader; Ron has done a lot of work to establish the Yagahong Alliance for many years, and he was delighted to take delivery of this machine," said Dean.

The Alliance's Mission is to build capacity for the Yugunga-Nya People through employment and

"RON AND CRAIG WERE HIGHLY APPRECIATIVE OF OUR EFFORTS IN SUPPLYING AND HANDING OVER THIS NEW LOADER"

training opportunities with the intent of empowering this and future generations.

The Yugunga-Nya traditional owners' country covers approximately 30,341 square kilometres of land in the Shires of Cue, Meekatharra, Mount Magnet, Sandstone and Wiluna.

Central Earthmoving MD Craig Patterson has had close relationships with prominent Aboriginal People and organisations throughout the Mid West, Gascoyne and North-West for many years, as well as a strong understanding of and empathy for Aboriginal cultural and social issues.



amien Crane, owner of Craneford Plumbing, has owned and operated Komatsu excavators since he started his business 10 years ago.

Damien chose Komatsu brand based on his accumulation of experience over his years in the civil and construction industry.

"Komatsu was my preferred choice based on a number of important factors," said Damien.

These included:

- » The ongoing running costs, fuel efficiency and longevity of parts
- » The service, warranty and backup technical support
- » The overall quality of the machine
- » The ergonomics, driver comfort and safety for Cranford Plumbing staff.

Craneford Plumbing is based in the Busselton Region in the town of Dunsborough, about 300 km south of Perth. It runs five Komatsu machines: a PC18MR-3, PC55MR-3, PC130-8, PC228US-8 and a long-arm spec PC88MR-8 delivered in early March this year.

The business carries out commercial and industrial plumbing, drainage projects and polyethylene pipe welding works for a mix of private and public sector clients. Including the City of Busselton, Busselton Water, and subcontracting for local contractors and builders.

"One of the things we specialise in is installing anaerobic treatment units — or ATUs — primarily for properties not connected to mains sewer, which have capacities ranging from 1500 litres a day up to 18,000 litres a day," said Damien.

"In fact, we're installing one of these commercial ones right now for the Uniting Church camp site here in Busselton." With his latest purchase – the PC88MR-8, Damien went for the longer arm to give more flexibility across its operations.

"We researched the Komatsu machines and opted for the advantages of the long boom as it didn't affect the lifting capacity of the material products we are primarily installing."

"Another important reason I chose Komatsu over other brands was because Craneford Plumbing work all over the state, in areas such as Carnarvon, Karratha, Port Headland, Kalgoorlie and Bunbury, so when we go away we want the reliability of the machines to come with us — and Komatsu having branches all over the state helps ensure that," Damien said.

"Their service and support is generally pretty good. They are always willing to talk and negotiate."

"Our construction machines are all under maintenance contracts, with Komatsu taking care of the service and maintenance on these. The utility machines are also serviced by Komatsu on a regular and as needed basis."

With his latest machines, Damien has been using Komatsu Finance to fund them.

"Our local Komatsu Finance rep, John Meakins, is excellent," he said.

"We particularly appreciate the current no-payment option for the first three months, which gives you time to start seeing some income from the machine to help ease you into the repayment process; it's very good from a cash flow point of view."

Damien has also been pleased with the KOMTRAX remote monitoring system.

"It is piece of mind for telling me where the machines are located and, based on this, our insurance company discounted our premium due to the machines' locatability," he said.

"The KOMTRAX system reports on every machine's operations, such as lifting, digging, tracking or idling. In addition to this, the fuel report shows every machine's fuel consumption per hour.

"And most importantly, the KOMTRAX monitoring system sends out a SMS if there is an alarm or fault detected with any of our Craneford Plumbing excavators," said Damien.





eading Tasmanian multi-faceted contractor Hazell Bros has recently refreshed its fleet of earthmoving and roadmaking equipment, with the purchase of 17 pieces of Komatsu equipment across excavators, loaders, articulated dump trucks and graders — and including two Komatsu Hybrid excavators.

With operations in Victoria, South Australia, Queensland and its home state of Tasmania, Hazell Bros has a 71-year-strong history of family owned and operated business success.

The accomplishments of the multifaceted Hazell Bros business are built on the strength of developing a team of the right people, acquiring the right equipment and refusing to compromise when looking after both these critical assets.

In diverse and often extreme conditions each piece of Hazell Bros machinery logs between 1500 and 5000 hours a year. The company's latest equipment acquisition refreshes the business's frontline fleet, relieving key machinery across Hazell's operations across civil construction, equipment and industrial services and resources.

The new machines, delivered earlier this year, are playing a vital role across the Hazell Bros operation, and bump the Hazell Bros fleet to 71 pieces of active Komatsu equipment, complementing its existing excavators, dozers, graders and wheel loaders among other units.

The new gear consists of seven excavators: two PC138US-8s, two compact PC55MR-3s, a 34-tonne PC300LC-8, a 36-tonne extra heavy duty PC350LC-8 and a low-hour ex-Komatsu Rental PC850-8E0 with around 2000 hours.

Joining their traditionally powered stablemates is Hazell Bros' first foray into Komatsu hybrids: a 21-tonne HB215LC-1 and 36-tonne HB335LC-1 excavator.

These nine excavators are joined by six new articulated dump trucks, consisting of three new HM300-2 and three ex-Komatsu Rental HM400-2s, a new GD555-5 grader and a WA470-6 and a WA200PZ-6 wheel loader.

Hazell Bros Director Robert Hazell has been there for the majority of the business's 31-year relationship with Komatsu.

Robert said a close partnership, understanding of business needs and a rounded approach to equipment ownership were key factors in the new Komatsu purchase.

"Komatsu excavators would make up the majority of our earthmoving fleet. The product is good and with the service we have from Komatsu there is no reason we wouldn't continue to grow our Komatsu fleet.

"Our new Komatsu machines are an upgrade," he said. "We have a bit of new work coming, and we are generally keeping the fleet at a low hour level."

The relationship does not end with supply of machinery though, with finance and monitoring proving critical to daily operations.

"We do a reasonable amount with Komatsu finance," said Robert.

"They are good to work with. We also get pricing outside as well, so we are competitive, but they have always done the best for us.

"The work Komatsu has done with KOMTRAX has also been very handy and they have been really proactive in the way they present it to us.

"The team strives to keep us appraised of the latest innovations with regular contact and let us know what is going on with our machines and operators."

With a view to constant improvement Robert is particularly looking forward to seeing the difference that the newly acquired hybrid machines will make to environmental impact and fuel costs.

"The world is a changing place and we all have to make sure we do our best for the environment. We are trying the hybrids out to see how they will work for the future of our company.

"Fuel burn is very important and something we constantly keep an eye on, even though the cost of fuel is lower than it has been for a while."







CLD GRAZIERSBENEFIT WITH KOMATSU DOZERS



arge and mid-sized bulldozers are an important workhorse for western

Queensland's large properties — and one of the region's best-kept secrets is

a dozer range with a unique transmission feature that is ideal for the type of
work required in these challenging conditions.

For the graziers and pastoralists on these massive properties, bulldozers carry out a whole range of tasks, whether land clearing, ripping and ploughing paddocks, maintaining and forming roads and fence lines, grading yards or general maintenance works.

Perhaps surprisingly, it's a relatively little known fact that Komatsu dozers — recognised among miners and earthmoving contractors for their superior dozing and ripping capabilities — have a unique driveline feature that makes them ideally suited to the frequent long, straight runs in hot dusty conditions which are typical of the large station operations in western Queensland.

Known as a "lockup torque converter", at the push of a button, the transmission on Komatsu D65AX-16 through to D375A-6 dozers can be switched from manual or auto powershift operation, to manual or auto powershift including torque converter lock up mode.

In essence, this means that engine power is directly (and mechanically) linked to the dozer's final drives, rather than via the hydraulically based torque converter and powershift transmission.

The end result is reduced fuel consumption, increased useable engine power and – importantly for machines working in hot, dusty farming conditions – significantly reduced overheating of the transmission system.

John Frater, Sales Account Manager with Komatsu Australia, said this lockup torque converter had become a very popular feature among property owners who had experience with Komatsu dozers.

"It definitely stops the transmission overheating," said John.

"When a dozer is in standard torque converter mode, you get slippage going on within the torque converter, which heats the oil up.

"That doesn't happen in direct drive, and that's a great advantage when you're doing those long, straight runs, particularly blade ploughing, in the high ambient temperatures we get in the Outback," he said.

"We have a number of customers in central and far western outback Queensland who have multiple Komatsu dozers – one has 13 of them – with some customers going back decades.

"They will all tell us that Komatsu dozers will out-push and out-rip any other dozer on the market, model for model."

Backing up its push to promote Komatsu dozers to western Queensland graziers, Komatsu has recently significantly expanded its service and support operations in the region.

This has included adding two resident technicians in Clermont and one in Barcaldine along with increasing capabilities at its Emerald branch facility.

These increased capabilities have allowed Komatsu's Emerald branch, which has been in operation for the past 10 years, to move to a full 24/7 operation, allowing it to improve response times to customers.

"At a time when other equipment suppliers have been reducing their presence in central and western Queensland, we've been actively growing ours, allowing us to better service and support our customers in remote areas of Queensland," John said.

One long-time Komatsu customer is Doug Carruthers, who with his wife Sharon and three children – Lachlan, Brant and Lily – runs Wendourie Station north-west of Alpha.

Wendourie is a 98,000 acre (39,600 hectare) property running beef cattle. It includes 300 km of roads and three sets of cattle yards with formed up and gravelled roads between them, allowing triple roadtrain access to each of them

The property also has 38 dams, ranging from 15,000 cu m to 300,000 cu m of water capacity.

The family has been on Wendourie since 1963.

Doug's late father, Mervyn, was brought up in Sydney, and spent four years in New Guinea during the Second World War. After the war, he started a sandwich shop, then a newsagency, then a dairy and earthmoving business, mainly pulling logs out of the Blue Mountains west of Sydney.

Then in 1963, he drew Wendourie in a ballot, and



started developing it with a couple of old dozers that he spent more time fixing than working with!

Mervyn and his wife Betty (Doug's mother) bought a second property, Skye Station, in the mid 1970s, just before the start of a beef "depression".

In 1987, he bought his first Komatsu dozer, a D150A-1, and he and Doug began blade ploughing on Skye.

"We worked it day and night at Skye for the first two years we had it," said Doug.

"We bought our first D375-1 in 1991; the extra weight of this dozer, plus the modular design, made it much more efficient than the D150, plus it was so much easier to work on.

"We were so happy with that machine, we bought a second D375A-1 and another blade plough in 1994 and started blade ploughing Wendourie," he said.

"We bought a third D375A-1 in 1999, and over the years, we've blade ploughed more than 80,000 acres.

"We've worked out that the Komatsu D375A dozer with its lockup torque converter is 30% more fuel efficient than a machine without lockup, and will run on the hottest of days all day without overheating."

Today, the Carruthers' Komatsu equipment consists of three D375A-1 dozers (two of which have been refitted with 2 engines and 2 lockup converters), along with their original D150-1, a WA16 scraper, and their two most recent machines, a D155AX-6 dozer delivered in August 2015 and a GD655-5 grader delivered in September 2011.

"Komatsu's service and support has been excellent over the past 29 years," said Doug. Another Komatsu dozer owner, in the Alpha region, is lan Donaldson, who runs the 11,000 hectare Trebarney Station with his wife Bonny and son Kemp.

They use four Komatsu D85EX dozers for a wide range of tasks around the property, including pulling regrowth, general earthworks, dam construction and maintenance and fence line clearing and grading.

The dozers are also hired out to other stations in the region, offering what lan describes as a "land development business for graziers".

Of the four D85A dozers, the latest of which is a new D85EX-15EO, specially modified by Komatsu for the hot, dusty conditions the dozers work in with a high capacity engine and hydraulic radiator cooling system.

'When you're driving through grass three foot high, and pulling a chain, you through up a lot of dust and the leaves and stuff just turns to powder," he said.

Because of these conditions, lan also prefers to change oils more frequently than the OEM recommendation.

'We try to do our engine oils every 250 hours, our transmission oils at 500 hours and hydraulics at 1000 hours — which is half the recommended intervals. That's because our conditions are a lot different to what they have in Japan," he said.

"We've been buying this size of dozer since 1992, when we bought our first Komatsu, a D85-18.

We've done nearly twice over a million bloody acres of regrowth since I've been in the game, and they have all been Komatsu dozers

"WE'VE WORKED OUT THAT THE KOMATSU D375A
DOZER WITH ITS LOCKUP TORQUE CONVERTER IS 30%
MORE FUEL EFFICIENT THAN A MACHINE WITHOUT
LOCKUP, AND WILL RUN ON THE HOTTEST OF DAYS ALL
DAY WITHOUT OVERHEATING."

"We find these mid-sized dozers are ideal for the regrowth work; big machines are good for big timber, but middle-size machines are good for the regrowth.

lan's operators also appreciate the comfort of the Komatsu dozers.

"In terms of comfort, the blokes who drive them for me can't believe how good they are to operate compared with other makes," he said.

"They are also pretty good with their power and powerto-ground ratios, and they are very efficient machines.

"The other reason we've kept buying them is because I now know them inside-out!

"I do all my own servicing and minor repairs, and we get Komatsu to do the major repairs and the warranty servicing.

"They look after us pretty well, and their department in Emerald is just getting bigger," he said.





AVARD FOR KOMATSU PERTH

he Master Builders Association of Western Australia has named Komatsu's Welshpool parts distribution and support facility 'Best Industrial Building' in the 2015 Master Builders-BankWest Excellence in Construction Awards.

The hotly contested award was presented to the facility's builder, BGC Construction, during a ceremony at the Perth Exhibition and Convention Centre.

Located at 67 Tomah Road Welshpool, the facility was opened in 2014 to service and support the present and future needs of Western Australia's mining and construction industry.

The world-class Komatsu distribution and support office and warehouse is steel-framed and contains over 14,300 square metres of warehousing space and 2,000 square metres of office facilities.

The facility features cranes, lifts, loading docks, extensive racking, and mezzanines for offices and storage. These spaces are joined by a large technical training centre and a genuine parts sales display and reception area.

The facility complements an expanded Perth mining assembly facility, taking Komatsu's total site area in Perth to 127,000 square metres.

"This award is the icing on the cake," said General Manager Operations Aftermarket Support, Paul Maguire.
"It's a pleasure to work in this building. BGC are the best at what they do and Komatsu worked very closely with the firm to ensure the utmost in form and function, compromising on neither. The end result speaks for itself – BGC understood our needs and met them.

"The building stands out and attracted positive comments even before it was completed. It was designed to be scalable, and it is an asset that will contribute to Komatsu's ability to service the bright future of Western Australia's mining and construction businesses."

Komatsu has a longstanding relationship with the BGC Group, of which BGC construction is a subsidiary, with BGC using Komatsu equipment across the full scope of its enterprise.

BGC said that the level of collaboration with Komatsu during the project was a major factor in the quality of the result.

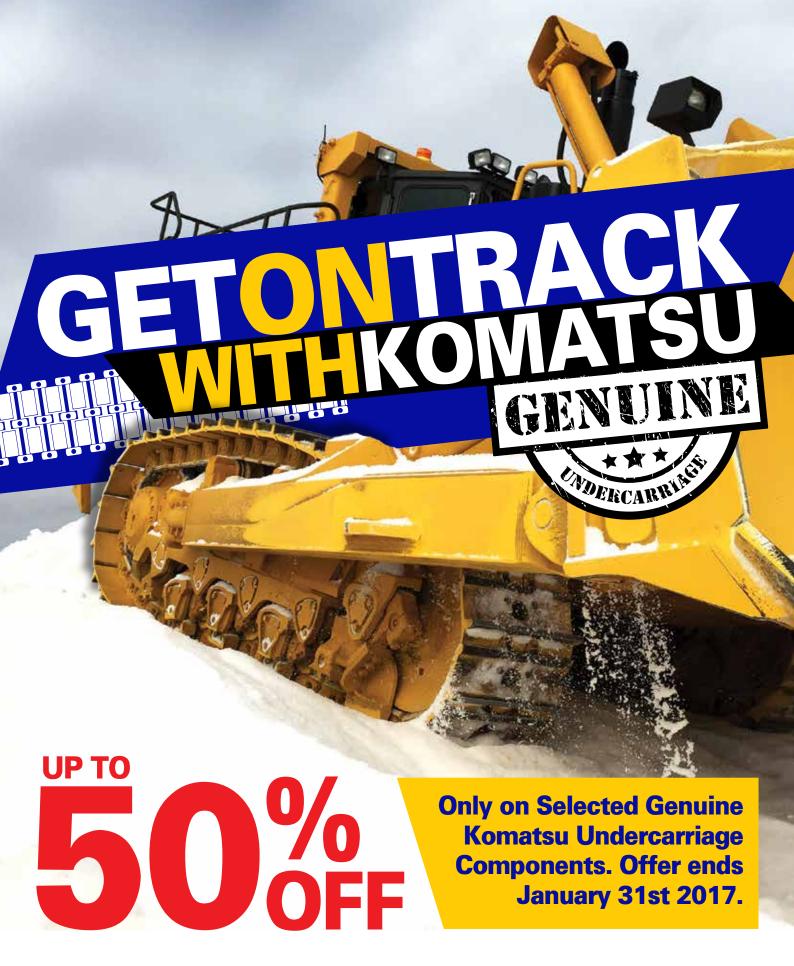
"[The project is] a tribute to a level of co-operation between Owner and Contractor for which we strive in all projects," BCG's website reads.

"Challenges have been faced, discussed and resolved as if between good friends, not commercial adversaries, and the result for BGC is one that we will remember for a long time!"

Regional General Manager Glenn Swift said, "The new Komatsu Parts DC represents a significant investment and commitment to supporting our valued customers. The new facility brings capacity to match the high level service capabilities already offered to the market."

Praw a circle around the correct PPE items and a cross over the wrong PPE items.





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