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COMMENTS

Welcome to this edition of D2E and thank you for taking the time to read about Komatsu. We are constantly focused on doing what it takes to help our customers be successful, so the team putting together D2E really work hard to ensure every article is relevant, interesting and potentially valuable to your business. I hope you find that is the case!

2018 is already shaping to be our busiest year for several years. This is driven by global growth and pretty much every region and customer segment in our territory growing. This means that Komatsu has to ramp up our activity to ensure we are maintaining our level of support to you. Of course we are doing just that. We know that you are doing the same and you need to have the confidence that Komatsu has your back. We do!

One area that can suffer when activity increases is safety. I like to openly share all of our lessons related to safety, because actually the health and safety of my employees and yours is the one goal I put above ensuring we meet customer delivery requirements. Actually I know you do to, which I think unifies every business in the Construction and Mining industries and that is a great thing.

So standards can slip, we can forget, we become careless when we rush. The key is to have velocity, not just speed. We cannot allow our standards to drop, quality and safety in particular. My lesson is that whilst I am passionate about respecting customer time, I must not create an environment that focusses on this at all costs. Delivery in Full on Time (DIFOT) is much much better than on Time by itself. I hope you agree. The key is working closely with you anticipating your needs to ensure we can give you what you want, when you want it, **Safely**. So perhaps even when the business is flat out, close to the end of the month a stop work to ensure safety if we feel safety is being compromised might actually be the best thing for husiness

I look forward to speaking to you in the next edition of D2E on integration between Komatsu Australia and Joy Australia. It is progressing very well and we are all very excited about the future.

Sean Taylor

Managing Director & CEO

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FRONT COVER

The New MR-5 Mini Excavator range - Komatsu's PC55MR-5

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omatsu Australia has released its new MR-5 mini excavator range, incorporating Tier 4 compliant low-emission engines that also reduce fuel consumption, and with a range of features which improve production and work efficiency, and increase jobsite safety.

The new range covers the PC30MR-5 (3.15-3.3 tonnes operating weight), PC35MR-5 (3.62-3.77 tonnes), PC45MR-5 (4.86-4.98 tonnes) and PC55MR-5 (5.14-5.26 tonnes).

Available in both canopy and air condition cab ROPS-compliant options, the new range will be available in Australia and New Zealand from February 2018, said Carl Grundy, Komatsu Australia's National Sales Manager — Utility.

"This new generation of mini excavators harnesses Komatsu's unrivalled technological knowhow and worldwide resources to bring industry-leading customer value to this market sector," he said.

"Our new MR-5 range boasts many industry firsts, and is packed full of outstanding new and improved features.

"These include advances in operator comfort, increased safety, improved ergonomic design, even lower fuel consumption, advances in controllability, the latest version of our KOMTRAX remote monitoring system — and the highest levels of standard specifications offered in the industry.

"Across the range, they raise the bar in terms of what customers can expect from a mini excavator," Carl said.

All four new machines feature US EPA Tier 4 Final compliant electronically controlled engines with either the Komatsu 3D88E-7 rated at 18.2kW for the smaller PC30MR-5 and PC35MR-5 or the Komatsu 4D88E-7 rated at 29.6 kW for both the PC45MR-5 and the PC55MR-5.

"In addition to delivering far lower emissions, these new minis use between 5 and 7% less fuel than their MR-3 predecessors — with no loss of performance or productivity."

Carl said that in developing the new range, Komatsu engineers had prioritised reliability and rugged design solutions to further reduce machine down time and lower operating costs.

"Auto deceleration and idle shut down now both come as standard, for reduced fuel consumption, increased residual value and lower service costs.

"All new models have standard two-way auxiliary piping for increased productivity and machine versatility when working with attachments.

"In addition, the PC45MR-5 and PC55MR-5 are fitted as standard with a second auxiliary circuit to enable fitting of tilting hitches, thumb buckets and the like.

"And across our MR-5 range, newly developed hydraulic electronic controls – here seen on mini excavators for the first time – ensure optimised machine performance and lower fuel consumption, whatever the job," said Carl.

"This, combined with selectable working modes – a concept usually only found on larger excavators, ensure optimum matching of machine power output to jobsite conditions, for easier operation and reduced fuel consumption."



Pictured:The New Dash 5 Mini Excavator

Range is your Smart Partner when it

and lower fuel consumption

comes to cab ergonomics, productivity



"OUR NEW MR-5 RANGE BOASTS

MANY INDUSTRY FIRSTS, AND IS

PACKED FULL OF OUTSTANDING

NEW AND IMPROVED FEATURES.

According to Carl, cabs on the new MR-5 range have been redesigned, inside and out, for more functionality and a new more modern look and feel.

"Accessibility has been significantly improved thanks to a new hinged door design, while a high-resolution multi-functional 3.5 inch LCD colour monitor panel, with maintenance and warning information clearly displayed, improves ease of use and ensures quick and easy troubleshooting.

"A dial type fuel control further increases operator comfort and convenience."

A number of new features contribute to increased operator safety on the new MR-5 range.

'Our new control lever Neutral Detection System is an industryleading safety feature that prevents accidental operation if controls are inadvertently knocked or grabbed.

'Other safety features include an engine shut down secondary switch and a seatbelt caution indicator.

'An easy-to-use tie down bracket provides fast and easy transportability, while ensuring the machines can be securely restrained," he said.

As standard, all MR-5 machines sold in Australia, New Zealand and New Caledonia are covered free of charge with Komatsu's KOMTRAX remote monitoring system, which offers the industry's highest levels of fleet management and support, protects against misuse, provides peace of mind against theft, and guarantees maximum efficiency and uptime.

> "Our new utility excavators are designed to provide our customers with unrivalled versatility, safety and comfort - as well as delivering reduced owning and operating costs," said Carl.

They are the perfect tools for confined jobsite applications, across construction, utility, landscaping and similar applications."

Brief specs of Komatsu's new MR-5 range of mini excavators:

Mini Excavator Range	Operating Weight (tonnes)	Engine Tier 4-compliant	Bucket Capacity Range	Maximum Dig Depth	Bucket Digging Force	Arm Crowd Force
PC30MR-5	3.15 (canopy) 3.3 (cab)	3D88E-7 rated at 18.2kW	0.035 - 0.11m³	2,760mm	3,000kg	1,800kg
PC35MR-5	3.62 (canopy) 3.77 (cab)	3D88E-7 rated at 18.2kW	0.044 – 0.13m³	3,110mm	3,050kg	2,100kg
PC45MR-5	4.86 (canopy) 4.98 (cab)	4D88E-7 rated at 29.6 kW	0.055 – 0.16m³	3,300mm	3,460kg	2,070kg
PC55MR-5	5.14 (canopy) 5.26 (cab)	4D88E-7 rated at 29.6 kW	0.055 – 0.18m³	3,770mm	3,980kg	2,440kg





omatsu has released a new 50 tonne class excavator, the PC490LC-11, featuring a Tier 4 Final-compliant low emission engine, delivering increased production and lower fuel consumption.

Designed for heavy construction, quarrying and demolition applications, the PC490LC-11 has an operating weight of 48.7 tonnes and is powered by a Komatsu SAA6D125E-7 engine rated at 270 kW.

According to Amber Rickard, Komatsu's National Business Manager — Construction, the PC490LC-11 replaces the 46.1 tonne PC450LC-8, which it significantly outperforms in key operating criteria.

"These include a larger maximum bucket size of 2.7 cu m - a 15% increase in lift capacity, and up to 13% greater production and 15% better fuel efficiency with the enhanced power mode," she said.

The new PC490LC-11 incorporates a number of major improvements and new features compared with its predecessor.

These include:

- » Enhancements to the hydraulic system, including efficiency improvements to reduce hydraulic loss, larger displacement pumps, increased hydraulic flow in power mode and a hydraulically driven variable speed reversible cooling fan.
- » Increased durability, with reinforced swing circle, reinforced revolving frame and a larger reinforced undercarriage with robust components for improved reliability.
- » Improved operator comfort, through a large capacity high-back electric air suspension seat, fully adjustable updated armrests, proportional control joysticks, and high-capacity air conditioning.
- » Upgraded ICT (Information Communications Technology) through an improved high resolution monitor panel in the cab, providing detailed operational and machine status information to the operator, service personnel and fleet managers.

- » Enhanced serviceability, through centralised service points, rear-opening engine cover, factory standard handrails and single-pole battery isolation.
- » The latest KOMTRAX system which remotely monitors critical machine operating criteria — including key Tier 4 engine components and operating parameters for early prediction of potential issues, and rapid troubleshooting and diagnosis.

"Our new PC490LC-11 represents a complete redesign over the PC450LC-8," said Amber.

"Not only does it have a new Komatsu Tier 4 Final compliant low emission engine — which dramatically cuts emissions compared with Tier 3 and earlier engines — but our design engineers have greatly enhanced the hydraulic system for increased power and efficiency, and significantly beefed up the undercarriage, swing system and counterweight.

"OUR NEW PC490LC-11 REPRESENTS A COMPLETE REDESIGN OVER THE PC450LC-8," "We've improved hydraulic efficiency through higher-displacement pumps, providing increased flow output at lower engine RPM, which allows the engine to operate at its most efficient speed, and we've increased hydraulic pipe size diameters to reduce hydraulic pressure loss.

"The PC490LC-11 is also the only excavator in this size class with a closed-centre load-sensing system, for better fuel efficiency, improved fine control and simultaneous multiple functions," she said.

"And in addition to standard hammer and quick hitch piping, the PC490LC-11 now comes with an additional service valve for easy setup of a proportionally controlled secondary auxiliary line."





Much of the increased operating weight of the PC490LC-11 compared with the PC450LC-8 is due to a heavier counterweight and extra heavy duty undercarriage.

"The heavier counterweight and more robust undercarriage increase lift capacity by up to 15%, allowing the use of larger buckets and attachments, and for the machine to lift heavier loads around sites," Amber said.

"In addition, this heavier duty undercarriage provides added durability and improved operator comfort in tough working conditions such as quarries, demolition and heavy construction, and rock-breaking work.

"The end result is an excavator that delivers lower costs per tonne, through its higher productivity and improved fuel efficiency, matched with durability and maintenance features that significantly reduce machine downtime and service costs," she said. "These machine features, combined with Komatsu's industry-leading levels of service and support, including our Fix It First Time concept, KOMTRAX, our InSite Fleet Management Centre and Komplimentary Maintenance offering, all contribute to bringing down operating costs for Komatsu machine owners," said Amber.

Brief specs of Komatsu's new PC490LC-11:

Excavator	Operating Weight	Engine Tier 4-compliant	Bucket Capacity Range	Maximum Dig Depth	Bucket Digging Force	Arm Crowd Force
PC490LC-11	48,690 kg	SAA6D125E-7 engine rated at 270 kW	01.45 – 2.7m³	7,755m (3380mm arm option)	24,400kg	20,900kg



atest Komatsu Dash 8 wheel loaders cut operating costs through better fuel efficiency, higher productivity

Komatsu Australia has released two new Dash 8 wheel loaders – the WA270-8 and WA320-8 – both powered with Tier 4-compliant low emission engine technology, and delivering improved fuel efficiency, higher productivity, and reduced owning and operating costs.

The WA270-8 — replacing the WA250PZ-6 — is powered by a Komatsu SAA6D107E-3 engine rated at 111 kW and offers bucket sizes from 1.9-2.7 cu m, while the WA320-8 — replacing the WA320PZ-6 — is powered by a Komatsu SAA6D107E-3 rated at 123 kW and has bucket capacities ranging from 2.3-3.2 cu m.

Both loaders feature Komatsu's fourth generation hydrostatic drive transmission system, as well as its versatile parallel Z-bar (PZ) linkage system which combines high breakout forces with parallel lift throughout the lifting cycle.

In releasing the Dash 8 versions of these two loaders, Komatsu Australia has gone straight from their Dash 6 variants, skipping the Dash 7 upgrades which included interim Tier 4-compliant engines, said Richard Feehely, Komatsu Australia's National Business Manager — Quarries.

"These latest wheel loaders incorporate all the new technology developments introduced in both the Dash 7 and Dash 8 upgrades, including improved performance and safety, reduced fuel consumption, superior operator ergonomics and significantly enhanced maintainability," he said.

Both loaders have increased straight and full-turn static tipping loads for improved productivity and safety; the WA270-8 has a full turn static tipping load of 8930 kg (2.3 cu m capacity GP pin-on bucket) and the WA320-8 has a full turn STL of 9780 kg (2.8 cu m capacity GP pin-on bucket).

"These higher performance capabilities, combined with fuel efficiency improvements of up to 13% from our Tier 4 final engine technology, mean these new loaders deliver significantly lower costs per metre of material moved than their predecessors," said Richard.

Both are powered by Komatsu's EPA Tier 4 Final compliant SAA6D107E-3 engine, rated at 111 kW on the WA270-8 and 123 kW on the WA320-8.

These engines incorporate a hydraulically actuated variable geometry turbocharger (VGT) to provide optimum air flow under all speed and load conditions, along with Komatsu Diesel Particulate Filter (KDPF) and Selective Catalytic Reduction (SCR) systems to reduce particulate matter and NOx while providing automatic regeneration.

According to Richard, auto-reversing fans as standard, along with wider core coolers, provide ample cooling capacity, able to cope with ambient conditions that are both hot and contain high amounts of airborne debris.

"Komatsu SmartLoader Logic on both machines automatically controls engine torque to match machine demands, optimising torque for all applications to minimise fuel consumption —

"HIGHER PERFORMANCE

THEIR PREDECESSORS."

CAPABILITIES, COMBINED WITH

OF UP TO 13% FROM OUR TIER 4

THESE NEW LOADERS DELIVER

FUEL EFFICIENCY IMPROVEMENTS

FINAL ENGINE TECHNOLOGY, MEAN

SIGNIFICANTLY LOWER COSTS PER

METRE OF MATERIAL MOVED THAN

minimise fuel consumption — without decreasing production.

'Reduced fuel consumption is further aided through six guidance messages and an enhanced 'ecology' gauge in the cabin display to encourage operators to work as fuel efficiently as possible," he said.

Komatsu's fourth generation hydrostatic transmission (HST) provides quick travel response and aggressive drive into the pile.

"Full auto-shifting eliminates any gear shifting and kickdown operation, to allow the operator to concentrate on digging and loading.

'The HST also acts as a dynamic brake, dramatically extending the life of the loaders' wet disc brakes," said Richard.

A variable traction control system is designed to adjust traction control for each working condition.

"S-mode" reduces tire spin in slippery conditions; "automode" automatically optimises tractive effort for various working conditions, while "max traction" mode provides full 100% tractive effort.

Richard said completely new cab designs on the $\operatorname{\mathsf{Dash}}$

8 loaders provided operators with improved comfort and visibility, along with reduced noise levels – further assisting in increased productivity.

A new design air-suspension operator seat gives enhanced support in rough conditions, as well as dampening machine vibrations.

"The seat, along with the steering wheel, is fully adjustable for optimum comfort and control.

'In-cab noise levels at the operator's ear have also been reduced, down to 68 dBA on both models," a significant reduction on their predecessors," he said.

'Machine maintainability has also been greatly improved through such features as side-opening gullwing style engine doors, swing-out type cooling fan and wide-core radiator, and placement of daily and weekly maintenance items for easy-to-reach ground-level

access.

"Komatsu Dash 8 loader owners also have the benefits of our advanced ICT (information and communications technology), including enhanced and intuitive on-board diagnostics systems and our latest KOMTRAX remote monitoring capabilities," said Richard.

"In addition, each new machine is covered by Komatsu Australia's Komplimentary Servicing offering, covering two years/2000 operating hours and including one complimentary scheduled diesel particulate filter exchange.

"This not only gives owners the peace of mind in knowing just what their hourly operating costs will be for the first two years of the machines' life, but also further pushes down hourly owning and operating costs.

"The combination of production and performance improvements, lower fuel consumption, easier maintenance, and Komatsu's outstanding product support offerings make these among the lowest costper-metre loaders available in their class," he said.



LOWER OPERATING COST

Brief specs of Komatsu's new Dash 8 Range of Wheel Loaders:

Dash 8 Wheel Loader Range	Operating Weight (tonnes)	Engine Tier 4-compliant	4th Generation Komatsu HST	Bucket Capacity Range	GP Bucket Capacity	GP Bucket Static Tipping Load	Bucket Digging Force	Dump Clearance
WA270-8	12.8 – 13.2	SAA6D107E-3 engine rated at 111 kW	maximum speeds, F/R, 38/38 km/h	1.9 – 2.7m³	2.3m³	40° full turn 10,330kg	13,375kg	2,975mm
WA320-8	15.5 – 15.9	SAA6D107E-3 engine rated at 123 kW	maximum speeds, F/R, 38/38 km/h	2.3 – 3.2m³	2.8m³	40° full turn 11,500kg	16,470kg	2,880mm



omatsu Australia has released the D375A-8 dozer for mining and large earthmoving applications, delivering increased production, reduced operating costs, new operator assist and comfort features, along with improved maintainability and service life.

With an operating weight of 72.9 tonnes, the D375A-8 is powered by a US EPA Tier 4 Final emission certified Komatsu SAA6D170E-7 diesel rated at 455 kW in forward gears, and 558 kW in reverse.

The new low-emission engine provides more reversing power for higher productivity.

According to Michael Hall, Komatsu Australia's Mining Product Manager, the new D375A-8's combination of a fuel-efficient low-emission engine, increased reversing power and enhanced chassis and track frame durability result in significantly lower operating costs per metre of material moved.

"Our new SAA6D170E-7 Tier 4-compliant diesel engine not only incorporates features to substantially reduce particulate matter and other emissions compared with previous generation engines, it also reduces fuel consumption through a heavy duty EGR (exhaust gas recirculation) system, a hydraulically driven radiator cooling fan and Komatsu auto idle stop," he said.

"At the same time, Komatsu has increased engine power by 20% when in reverse, reducing cycle time in downhill dozing applications — the most efficient method of bulk dozing.

"Compared with our previous generation D375A-6, production in downhill dozing is increased by 18%."

And as with earlier generations of the D375A and other large Komatsu dozers, the D375A-8 incorporates Komatsu's exclusive automatic transmission with lockup torque converter.

"This transmission system reduces fuel consumption by up to 10%, along with greater power train efficiency, compared with manual gearshift modes," said Michael.

"Komatsu's automatic gearshift transmission selects the optimal gear range depending on working conditions and the load on the machine, so it's always operating at maximum efficiency."

Operator comfort has been significantly improved compared with previous models of the D375A, through a number of upgrades and design changes.

Significant ride improvements, based on proven design enhancements to other models, result from further changes to the undercarriage, cabin mounts and operator's seat.

"As a result, this generation of Komatsu mining dozers are the most comfortable on the market."

Other improvements for operators include better visibility of the blade and ripper, new platforms and handrails and a Komatsu boarding ladder.

Operator assist features such as auto blade pitch, auto ripper return and fixed steering lever are standard on this model.

A number of improvements to increase machine reliability and ease of maintenance have also been made to the D375A-8.

These include long life mainframe and track frames, the use of a Mesabi® radiator as standard, with a hinge-type front mask and cooling fan support.

"Komatsu dozers have long been recognised for their high performance pushing and ripping capability, with Dash 1 generation dozers still in service, in Australia, New Zealand and around the world," said Michael.

- "With this latest Dash 8 model, key frame improvements offer superior levels of durability and reliability for many years of service in challenging working environments.
- "And as standard, this dozer comes with Komatsu's KOMTRAX Plus monitoring and equipment management system, for remote monitoring of machine health, site operating conditions and operator techniques.
- "Komatsu also offer an energy-saving support report, based on a machine's operating data, allowing us to work with mine management and machine operators to achieve lower fuel consumption and higher productivity," he said.

"THIS GENERATION OF KOMATSU MINING DOZERS ARE THE MOST COMFORTABLE ON THE MARKET."

Brief specs of Komatsu's new D375A-8:

Dozer	Operating Weight	Engine Tier 4-compliant	Blade Capacity
D375A-8	72.9 tonnes	SAA6D170E-7 engine rated at 455 kW in forward gears 558 kW in reverse	18.5m³ (semi-U) 22.0m³ (full-U)



omatsu Australia has released the latest version of its 370-tonne class mining excavator, the PC4000-6 Series 3, delivering higher productivity, reduced maintenance costs, increased reliability, and upgraded safety features.

Komatsu Australia has released the latest version of its 370-tonne class mining excavator, the PC4000-11 Tier 2, delivering higher productivity, reduced maintenance costs, increased reliability, and upgraded safety features.

The new excavator is based on the PC4000-11 released at Minexpo in 2016 – but incorporates a Tier 2 emissions standard engine, rather than the Tier 4 Final engine fitted to the original PC4000-11. It achieves its productivity increases through having the highest digging forces – both in backhoe and face shovel configurations – in its class, a large-capacity 23 cu m backhoe bucket, and faster cycle times through variable-speed slew motors.

Proven Komatsu-designed-and-manufactured hydraulic pumps contribute to lower maintenance costs through long life and easy-to-maintain design. A simplified Komatsu control system ensures a high level of reliability.

Safety standards for both operators and maintenance crews have been improved through a number of upgrades, including 45° stairway access stairs and factory-fitted exit ladders.

The PC4000-11 Tier 2 has an operating weight of 388-405 tonnes (depending on configuration), has a 23 cu m capacity bucket as standard in backhoe configuration and 22 cu m in shovel mode. It is powered by a Komatsu SDA16V160E-2 engine rated at 1400 kW.

According to Michael Hall, Komatsu Australia's National Product Manager, Mining, the PC4000-6 Series 3 has been specially developed to suit Australian conditions.

"Apart from the engine, the PC4000-11 Tier 2 is identical to the PC4000-11 released in Las Vegas in 2016 — including all the safety and technological developments it incorporated.

"Komatsu can now supply the latest design and technology with a Tier 2 option to Australian mines not requiring the Tier 4 version of the PC4000-11," he said.

"For that reason, we are offering this model with the well-known and proven Tier 2 compliant Komatsu SDA16V160E-2 engine for Australia.

"And it comes direct from the factory aligned with Australian mining requirements, so minimal modifications are required."

Hall said that Komatsu Australia would be bringing the first PC4000-11 Tier 2 to Australia second quarter of 2018 in backhoe configuration.

"This size and configuration excavator is a flexible loading tool option for many Australian mining operations and, with the local industry showing improved growth and activity, bringing in a stock machine is a sign of our confidence in the industry's future," he said.

"We see excellent potential for this model, and are keen to see the advantages and improvements it delivers used in mining operations in Australia."

Upgraded safety features are key improvements on the PC4000-11 Tier 2.

It now incorporates new 45° access stairs, which allow operators and maintenance personnel much easier and safer access to the machine, including easier access to the machinery house level and to the operators cabin.

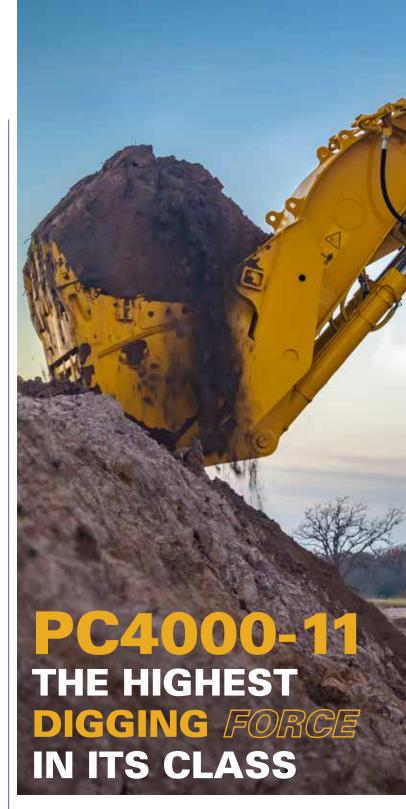
"Another safety advance is a new emergency egress system, incorporating emergency exits on two sides of the machine, ensuring high safety standards for all personnel on the machine," Hall said.

A flipdown two-piece ladder, with anti-slip surfaces helps ensure quite and safe exit from the machine in case of emergency.

The front window of the cabin is 19 mm thick impact-resistant glass, giving additional operator protection.

A new lighting system, consisting of 14 high-performance working lights using the latest LED technology ensures significantly better visibility at night and other times of low visibility.

The excavator's control system has been simplified and upgraded, using Komatsu controllers



to reduce nodes and provide additional redundancy for improved efficiency.

"The PC4000-6 Series 3 is fitted with Komatsu's latest KOMTRAX Plus remote monitoring system, providing remote monitoring information about the machine's performance and operating status," Hall said.

"APART FROM THE ENGINE, THE PC4000-6 SERIES 3 IS THE SAME AS THE PC4000-11 RELEASED IN LAS VEGAS LAST YEAR – INCLUDING ALL THE SAFETY AND TECHNOLOGICAL DEVELOPMENTS IT INCORPORATED."

"It also incorporates extended oil change intervals combined with easier and safer machine access, significantly reducing regular maintenance requirements.

"As well, the machine is Modular Mining's ProVision ready, allowing it to incorporate a machine guidance system that integrates with mine planning software."

"It is also ready for MineWare's Argus Payload System, allowing accurate, reliable payload measurements, so operators can optimise loading to required truck payloads," he said



Brief specs of Komatsu's new PC4000-6 Series 3:

Mining Excavator PC4000-11	Operating Weight (tonnes)	Engine Tier 2	Bucket Capacity Range	Maximum Dig Depth	Maximum Dump Height	Bucket Digging Force	Arm Crowd Force
Backhoe configuration	394 – 405	SDA16V160E-2 rated at 1400 kW	23m³	8,000 mm	NA	117,775 kgf	107,068 kgf
Face shovel configuration	388 – 400	SDA16V160E-2 rated at 1400 kW	22 m³	NA	12,000 mm	135,620 kgf	127,462 kgf

HD1500-8

Komatsu's HD1500-8 dump truck drives down haulage costs through higher production, improved fuel efficiency and better maintainability



omatsu has released the HD1500-8 mechanical drive dump truck, a 142 metric tonne capacity hauler designed to reduce cost per tonne through such features as highest payload in its class, faster cycle times, improved fuel efficiency, longer component life and enhanced maintainability.

It replaces Komatsu's successful HD1500-7, introduced in 2008 and with more than 50 units operating in Australia working in mining applications across coal, gold

"Our new HD1500-8 truck will further build on the success the HD1500-7 has had in Australia," said Scott Harrington, Komatsu Australia's National Product Manager, Mining.

"It's a completely new, redesigned truck, developed using principles developed by the Earth Moving Equipment Safety Round Table (EMESRT) to ensure high standards of safety and harm minimisation," he said.

"This new truck builds on the performance and reliability characteristics of the HD1500-7, as well as incorporating technological advances from our proven HD785-7, such as the Komatsu Traction Control System.

"It will deliver our customers outstanding productivity due to its high payload and high engine power, enabling faster cycle times.

"We estimate it will provide a further 6% cost per tonne advantage compared with the HD1500-7, through reduced operating costs due to component life improvements, improved fuel efficiency and better maintainability," he said.

Power comes from a 16 cylinder Komatsu SDA16V159-3 engine, based on the Cummins QSK50 Tier 2 diesel (also available in fuel-optimised calibration), rated at 1175 kW gross — a 6% increase in power over the 12-cylinder Komatsu SDA12V160 powering the HD1500-7.

"While this engine is new to the Australian imported HD1500-8, it's been used across other Komatsu mining products, and is well-proven in the industry," said Scott.

Fuel efficiency is improved compared with the previous model through a number of engine management and control features, including:

- » Komatsu "on demand" energy saving technologies, such as variable displacement pumps for the steering and hoist circuits.
- » Improved hydraulic pressure management for the transmission system.
- » Operator feedback systems, including ECO fuel saving guidance on the in-cab monitor to encourage more fuel-efficient operation.
- » Operator selectable operating modes, with a choice of "Power" or "Economy" mode depending on operating conditions and haul road profiles.

A key element in the truck's improved fuel efficiency, higher productivity and increased safety is a completely revamped transmission system which offers a seven speed automatic transmission with selectable reverse gear ratio. This is combined with electronically controlled technologies found in the HD785-7 designed to optimise operating efficiency.

These include

- » K-Atomics, electronic shift control with automatic clutch modulation in all gears, optimising clutch engagement for smoother shifting without any loss of torque.
- » Komatsu Traction Control System (KTCS); this system, introduced on the HD785-7 truck, continuously – and automatically – monitors the rear wheels' rotating speeds and vehicle speed to minimise wheel slip, maximising traction, improving productivity and extending tyre life.
- » Komatsu Automatic Retard Speed Control (ARSC) which allows the operator to easily set a downhill travel speed and go down inclines at a constant speed, allowing them to fully concentrate on steering.

"We've also significantly upgraded the transmission and rear axle components to ensure improved maintainability and durability," said Scott.

Reliability and durability have been further enhanced through a redesigned high-rigidity frame, incorporating castings in high-stress locations where loads and shocks are most concentrated.

In addition, the HD1500-8 incorporates a payload monitoring system (PLM) which assists in managing the payload of each haul cycle, as well as analysing production volumes and working conditions.

The PLM has also allowed Komatsu introduce a "loading policy" for the truck, providing guidelines for ensuring correct target payloads are achieved every haul cycle — maximising productivity, reducing operating costs, and extending the life of tyres, brakes and other components," said Scott.

Improving maintainability was another important design aim in developing the new truck. To achieve this, the Australian-spec truck includes such features as:

- » Centrally located service centre on the bottom part of the steering/hoist tank, allowing changing of engine oil, coolant, transmission oil, steering hoist oil, and brake cooling oil at a common location.
- » Centralised filters.
- » Maintenance-free engine cooling fan drive belt, with tension maintained by an auto-tensioner pulley
- » Auto-greasing system which automatically supplies grease to each point at a preset number of hours; the reservoir's refill port is accessible from ground level.
- » Easy radiator tube replacement with individual cooling tubes held in headers with flexible seals for easy to removal and installation.
- » A battery isolation switch.
- » LED headlamps and tail-lights.
- » Flange-type tyre rims.

Komatsu has also made use of the latest information communications technology (ICT) developments to further improve reliability and maintainability, increase site and operator safety, and enhance productivity and efficiency.

"IT WILL DELIVER OUR
CUSTOMERS OUTSTANDING
PRODUCTIVITY DUE TO ITS HIGH
PAYLOAD AND HIGH ENGINE
POWER, ENABLING FASTER
CYCLE TIMES."

These include:

- » KOMVISION camera and radar system, with six cameras and eight radar units providing full situational awareness for the operator of nearby machines, site vehicles, personnel and hazards.
- » The latest KOMTRAX Plus machine monitoring system, to analyse the vehicle operation as well as machine health condition.
- » A road condition analysis system, using suspension cylinder pressures to map haul road conditions, allowing the development of optimal travel speed guidelines and schedule road maintenance – further contributing to maximising vehicle availability.

Safety and operator comfort have also been upgraded on the new truck, including the provision of a new ergonomically designed automotive-style cab, an automatic climate control system, reduced in-cab noise levels of 75 dBA, and a number of new features to reduce vibration and movement. These include large capacity viscous cab mountings, a hydropneumatic suspension system and independent McPherson strut type suspension on the front wheels.

"These upgrades, combined with the additional operator feedback, monitoring and situational awareness systems, along with centralised maintenance locations, make this a far safer truck to operate, maintain and work around," said Scott.

This, in conjunction with its productivity, efficiency and maintainability improvements, position the HD1500-8 as the leading truck in this class," he said.

Brief specs of HD1500-8:

Dump Truck	Payload Capacity	Body Capacity (SAE heaped 2:1)	Engine Tier 2 or fuel-optimised	Maximum Travel Speed	Loading Height	Hoist Raise /Lower Times
HD1500-8	142 tonnes	78 – 94m³	SDA16V159-3 engine rated at 1175 kW gross	56.5 km/h	5070mm for 94m³ body or 4750mm for 78m³ body	13.5/12.5 seconds



Komatsu celebrates
10th anniversary of
commercial deployment
of Autonomous Haulage
System (AHS):
100-AHS-trucks-inoperation milestone
inspires plans to
accelerate pace of
mining automation

Komatsu Ltd (President and CEO: Tetsuji Ohashi) (hereafter "Komatsu") today announced the company is celebrating the tenth anniversary of the commercial deployment of its Autonomous Haulage System (hereafter "AHS").

Today, more than 100 AHS trucks operate in Australia, North and South America. Based on the 10-year proven record of safety, productivity, environmental resistance and system flexibility in an array of mining environments, Komatsu plans to accelerate the pace of AHS deployment.

In 2005, Komatsu began the AHS trial at CODELCO's copper mine in Chile and succeeded in achieving the world's first commercial AHS deployment with Codelco in January 2008.

A second successful deployment followed in late 2008 at Rio Tinto's iron ore mine in Australia and Rio Tinto currently operates AHS trucks in four mines in the Pilbara region of Western Australia.

The entire AHS operation is controlled remotely and efficiently from Rio Tinto's operations centre in Perth, roughly 1500 km from the mines. Following those successes of AHS deployments, Komatsu supported Suncor's pilot of AHS in a section of their oil sands mine in Canada in 2013.

Today, the AHS operates around the clock, hauling three different commodities, in six mines across three continents.

By the end of 2017, the AHS recorded a world-leading, cumulative total of 1.5 billion tons of hauled materials.

In the area of safety, AHS is significantly safer than in conventional mining environments where even a small truck driving error could cause a serious accident.

AHS-enabled customer productivity has improved, reducing load and haul unit costs by more than 15%, compared with conventional haulage methods.

In addition, the optimised automatic controls of the AHS reduce sudden acceleration and abrupt steering resulting in 40% improvement in tyre life compared with conventional operations, and the various benefits of AHS deployment also show a great contribution to reducing the environmental impact.

To extend the proven AHS benefits to operations with manned haul fleets, Komatsu conducted and successfully completed trials of its AHS retrofit kit at Rio Tinto's existing mine in September 2017.

The retrofit kit, mounted on a Komatsu electric drive standard truck 830E (nominal payload: 220 tons), enabled the truck to operate in autonomous mode. As a result, Komatsu recently received an order from Rio Tinto for 29 AHS retrofit kits, to be installed on 830E standard trucks currently operating at Rio Tinto's Brockman 4 mine.

In addition to expanding the AHS retrofit kit to include other main models of Komatsu electric drive standard trucks, Komatsu is planning to enhance the AHS's mixed-operation functions.

The planned enhancements will enable manned haul trucks of any make to safely interoperate with Komatsu AHS trucks in a blended fleet operation.

Under this initiative, Komatsu has committed to provide mining customers with AHS solutions that meet the growing demand for gradual transition from existing to fully automated mines.



ANGLO AMERICAN DOUBLES WEEKLY CUTTING HOURS WORKING WITH KOMATSU'S SMART SOLUTIONS TEAM

artnering for performance, Komatsu's Smart Solutions team and Anglo American successfully implemented a predictive framework to optimise performance across a Joy longwall system at Anglo's Moranbah North coal mine in Queensland.

To help improve reliability and performance, the company engaged with Komatsu's Smart Solutions team, who provide customised integrations of the company's smart connected products and systems, advanced analytics and direct services, designed to help reduce cost per tonne and increase productivity.

Sensor-equipped products deliver data and analytics to Komatsu experts, who in turn provide direction, anticipate service needs and optimize machine productivity.

By working closely with Anglo American and using the analysis and integration of several data sources, the Smart Solutions team was able to develop an intrinsic and intimate understanding of the Moranbah North longwall operation and equipment performance.

"Data is just data, the differentiator is having the technical and operational expertise to identify constraints and therefore opportunities for improvement," said Nigel Buttery, Remote Health Monitoring Manager, Komatsu. "You need the ability to clearly articulate your hypothesis, conclusions and recommendations in a clear, concise and meaningful way."

Using data to produce a detailed understanding of the entire longwall operation was step one. The Komatsu experts relied on their experience in mine optimisation to pinpoint areas for improvement and recognise the relationships between potential causes of delay.

These recommendations were conveyed in weekly meetings, status reports and monthly snapshots that made the system's functions clearly visible to the entire operation.

Through the partnership and detailed analysis, the team was able to recommend and validate changes to operating practices, parameter changes and even equipment design.

"Armed with accurate factual data, we can make the most informed decisions possible for the optimisation of the equipment and its operation in a given application," said Buttery.

With Komatsu's contribution to a broad improvement initiative, Anglo averaged 111 longwall operating hours per week during the mining of a complete longwall block at Moranbah North Mine.

"While the operations team initially viewed Smart Solutions cautiously, thinking of it as a 'Big Brother is watching approach' it has become a service that has been embraced," said Dieter Haage, Head of Mining Excellence, Underground, Anglo American Coal's operations.

Supported by the partnership, the mine doubled the number of cutting hours per week, and increased cut rates by 15%.

"Given this improvement in transparency of condition and performance, the foundation is in place to move toward with a preventative and proactive action strategy to improve performance, with the goal of becoming the benchmark operation in longwall mining," said Haage.

"YOU NEED THE ABILITY TO CLEARLY ARTICULATE YOUR HYPOTHESIS, CONCLUSIONS AND RECOMMENDATIONS IN A CLEAR, CONCISE AND MEANINGFUL WAY."



TAKE OFF **WITH QANTAS -GENUINELY**

hanks to Komatsu Australia's partnership with Qantas **Business Rewards, which launched in November** 2016, Komatsu customers can earn Qantas Points for every dollar they spend on eligible Komatsu genuine parts (excluding GST and delivery charges)

Komatsu has recently expanded on a successful start to the partnership and now brings even greater value to its genuine parts customers across Australia by offering Qantas Points in increments – from one point per dollar up to three points per dollar spent on eligible Komatsu genuine parts (excluding GST and delivery charges) based on the amount spent.

The new tiered program has driven a 75% increase in the number of Komatsu customers earning Qantas Points through the Qantas Business Rewards program.

Komatsu and Qantas Business Rewards will continue to enhance the partnership offering to provide even greater value to Komatsu customers.







Pictured: Melinda Ejjamai, National Parts Manager, National Parts Consumables

The Qantas Business Rewards program also allows businesses to earn Qantas Points with more than 50 other partners including Dell, Samsung, Vodafone, NRMA and American Express.

Qantas Points earned through Qantas Business Rewards can be transferred to any Qantas Frequent Flyer account and used to save on business costs or to reward the owner or team with flights, upgrades or products from the Qantas Store.

The Qantas Business Rewards program has grown rapidly since its launch in 2014 and now rewards more than 180,000 small and medium businesses with Qantas Points on their everyday expenses

Komatsu is the only Original Equipment Manufacturer in the earth-moving industry - and the only multi-national heavy equipment supplier partnered with the Qantas Business Rewards program. Companies across the world in many industries are seeking to minimise the threat of non-genuine, counterfeit and fake parts which



threaten machine reliability and which in certain instances have proved dangerous. The influx of non-genuine parts has the potential to adversely affect used machinery prices as well as reduce safety standards and increase machine down-time, with the risk of more breakdowns.

"The Qantas Business Rewards partnership is a means of driving machine integrity by using Komatsu Genuine Parts," said National Business Manager – Consumable Parts, Mrs Melinda Ejjamai.

"By signing up to Qantas Business Rewards, Komatsu customers not only earn Qantas Points on Komatsu genuine parts, but can also enjoy a range of other program benefits including earning Qantas Points on over 50 other business expenses and saving on Qantas flights," said Melinda.

Melinda said that a major benefit of the partnership was Komatsu's decision to waive the joining fee for its customers. "A one-off joining fee of \$89.50 usually applies when signing up to the Qantas Business Rewards program however this is now free to all Komatsu customers."

A Komatsu customer needs only to align their ABN business registration with their Komatsu purchasing registration to earn Qantas Points.

Customers will earn 1 Qantas Point per dollar on Komatsu Genuine Parts purchases up to \$1.999. 2 Qantas Points per dollar for purchases between \$2.000 and \$5.999. and 3 Qantas Points per dollar for purchases between \$6,000 and \$40,000.

"We have set up a win-win for our customers, especially those who are owner/ operators," she said.

"Our customers' commitment to Komatsu Genuine Parts assures the integrity of their machinery investment, and the bonus of Qantas Points is additional reward."

"Their commitment to Komatsu Genuine Parts assures the integrity of their investment and the bonus of Qantas points is additional reward."





Pictured: Winstone's Flatop Quarry, Silverdale, New Zealand

C&R DEVELOPMENTS BENEFITS FROM SMARTCONSTRUCTION SURVEY





Pictured from left: Selwyn Hull (C&R), Reimerd Mostert (Komatsu), Steve Ross (C&R) and Scott Jamieson (Komatsu)

ambridge (NZ) based contractor C&R Developments recently benefitted from a free drone survey a service offered as part of Komatsu's **SMARTCONSTRUCTION** concept – won by surveyor Steve Ross during the Intelligent Machine Control launch in the **Hunter Valley in November last year.**

Komatsu NZ took a small team of customers across to the iMC launch in Australia where Steve won a closest-to-pin golf challenge, with the free drone survey as the prize.

The survey was carried out at Winstone's Flat Top Quarry, at Silverdale north of Auckland, where C&R is undertaking overburden removal and rock selection.

Scott Jamiesen, Komatsu's SMARTCONSTRUCTION Support Centre Manager, New Equipment Construction & Utility, came out from Australia and carried out the survey on Tuesday August 8.

According to Steve, the survey data provided by Komatsu's SMARTCONSTRUCTION capabilities will be used for volume calculations and future design work.

"The point cloud data we have received is obviously a lot more dense than our typical GPS rover survey, which makes it a lot more accurate.

"In addition, the field work was completed in around 15 minutes — compared with several hours using a rover, so there are obviously many advantages using Komatsu's drone technology," he said.

C&R has been working at Flatop for the past two years, carrying out overburden removal works and assisting with day-to-day quarry operations.

The company is one of New Zealand's leading civil earthworks and bulk earthmoving contracting companies, established in 1998 and continuing as a family-owned business. Its management team has over 60 years' experience and expertise across all earthworks and plant management fields.

C&R owns and operate a large selection of medium to heavy plant able to undertake the most demanding projects under the most stringent environmental standards. Plant can be hired to suit a range of applications, specifications and timelines.

It currently has 94 Komatsu machines in its fleet,

including 49 rigid dump trucks, 11 articulated dump **RECEIVED IS OBVIOUSLY A LOT MORE** trucks, and 23 excavators, along with various other types of equipment.

> "I was very lucky to actually win the drone survey, as my

golf game is usually rubbish!" said Steve.

"THE POINT CLOUD DATA WE HAVE

ROVER SURVEY, WHICH MAKES IT A

DENSE THAN OUR TYPICAL GPS

LOT MORE ACCURATE."

"However, it was very interesting to see this new technology in use; it makes traditional methods look highly obsolete in terms of safety and efficiency.

"I would also like to say a big thank you to Scott, Reimerd Mostert (KNZ's Technology Solutions Expert), Elle Schutte (KNZ's National Aftermarket Marketing Manager) and Komatsu for going out of their way to come and do this for us. We really appreciate it," he said.

Elle Schutte



Ile Schutte is the friendly face of Kiwi Komatsu. She is the person responsible for putting the Silver Fern on the uniforms of the company's 100 team members.

Her personal quest is to reinforce the national identity of the organisation — its employees and its customersnot by separation but by inclusion in the culture of Komatsu. Elle is the proudest Kiwi of them all.

And yet every day her colleagues have to listen hard to understand what she's saying and most days she learns from them something she's never known before.

"What's a jandal; when you go for a smoko why don't you smoke; why does a chillybin have nothing to do with red hot peppers; and if you stop for morning tea where's the brew?

"These are just some of life's mysteries that perplex me," she smiles

Elle, her husband Hugo and their two boys Joshua, 14, and Joel, 13 are South Africans.

But after two years and two months in Auckland, they'll deny it.

"I can't wait for the day I have my New Zealand passport in my hand, "she says.

That's another three years off — until 'resident' status transitions into citizenship.

Elle and her family don't want to be seen as outspoken critics of the homeland they've left behind.

The stark reality of their change in lifestyle is perhaps best left to a third party – this year's Pulitzer prize winner, noted American sociologist Matthew Desmond:

"Home," he says, " is where children have safety and security, where we find our identities and where citizenship starts."

For Elle the lightbulb moment came when her sons arrived in Auckland to join her and she gave them money to walk two blocks to the local shop.

"They said Mum you can't be serious — it's far too dangerous," she says.

"We came from an environment where you wouldn't do that, where you had locks and bars on all your doors and you still had home invasions.

"We've traded fear for freedom."

Elle had been national marketing manager for a global PC and smartphone company. Komatsu was the first time she'd touched the earth.

"I love it," she says.

"I'm happiest when I trade the high heels for the safety boots and I'm up to my ankles in mud on a customer site."

Elle is Komatsu New Zealand's National Aftermarket Marketing Manager, the first time the company has had such a title. It's all-encompassing – far more than it suggests.

"There's pride and respect in this country and in this company," she says.

"We should be doing all we can to capture our spirit."

Little by little Elle has been injecting Kiwi into Komatsu. She's started a new local electronic news letter "Dig It", for members of Komatsu's far flung staff.

ELLE IS KOMATSU NEW ZEALAND'S NATIONAL AFTERMARKET MARKETING MANAGER, THE FIRST TIME THE COMPANY HAS HAD SUCH A TITLE.

Komatsu's Facebook page — once Komatsu Australia - will also have Komatsu New Zealand early in 2018.

In 2018 there'll be a New Zealand edition of this publication D2E and a new NZ-centric website.

And there's cause for celebration – not Elle's work alone by any means – that there'll soon be a Komatsu New Zealand Distribution centre with parts arriving directly from Japan.

"Komatsu is a great company and this is a great country, far more so than many people appreciate," she says. "Sometimes you have to see a place through fresh eyes to truly appreciate it."

"Other people have batches — another phrase I'd never heard," she says. "We prefer to explore and discover rather than staying in the same place.

"My boy's think I'm a bit over the top because whenever we're on the road I can't stop smiling and wondering at the beauty. But I hope I never stop."

Elle is, however, on a cultural exchange mission of her own – to introduce the braai – South Africa's traditional smoked-wood barbecue – to New Zealand.

"You use gas here, "she says in mock horror. Someone should introduce her to the hangi.

PROFILE:

Francesca Vechi



"I'VE DEVELOPED A CATCHPHRASE, ALMOST A PERSONAL MANTRA: 'BE COMFORTABLE IN THE UNCOMFORTAB<mark>LE."</mark>

Pictured: Francesca Vechi, Transition and Change Manager, People & Strategy

t was when Francesca Vechi began tasting the food of five nations that she realised diversity was not an abstract concept but a down to earth reality.

Francesca's mum, an Argentinian immigrant, was arguably one of the first graduates of a TAFE course on multi-culturalism and she applied her skill in a practical way.

Working with NSW's Hunter Regional Health department in the middle of an influx of migration from many lands, Carmen Vechi set out to make them welcome.

According to Francsca, "Food was the common denominator".

"Anyone who's tasted hospital food knows that the word 'taste' is probably an exaggeration,' smiles Francesca.

"My mother began a hospital food trial, introducing the cuisine from the five nations that were prominent in the region at the time, and inviting people to sample and welcome the variety."

Naturally Carmen's work found its way home so as well as a broad diet, teenage Francesca shared the family table with the people who cooked it.

"There was never a Christmas or a significant celebration when we weren't joined by people of other nations, some who are still friends today".

Francesca, now Komatsu's manager of Transition and Change, has lived with what she calls "change fatigue" all her working life.

"It's not change itself which is a problem, "she says." Change is inevitable and good.

"It's the rate of change and our ability to deal with its rapid onset that is the challenge".

Francesca has lived with transition in a very practical way and understands how swiftly the pendulum swings.

Although born in Australia to parents who chose to immigrate here over a similar invitation from Canada, Francesca's name and striking southern European looks labelled her ' the wog' in a school playground of 'Anglo's'.

"It hurt, but then the Vietnamese arrived and it became us against them," she says.

Newcastle in the '90s, was a melting pot of races with refugees still welcomed.

Francesca was in its midst — a cadetship at the BHP plant and a local Uni course supplemented by a job in the Hamilton pub.

A stint in troubled Indonesia to work for BHP on a joint venture with Daimler Benz led to positions in financial and energy companies before Komatsu.

"It was the Newcastle upbringing that gave me the taste for industrial activity and the level of authenticity you just can't get elsewhere, "she says.

"We have to have people believe in what we need to do. Many of our blue collar workers, like the fitters, effectively run their own businesses within our bigger business and we need to help them do it even better.

"Things like the introduction of electronic time sheets assist overall productivity but they can be challenging, even threatening, and we need to help people through that change."

Transition and Change management is still a relatively recent introduction into the DNA of companies around the world. Francesca ran the first major diversity survey for Caltex only eight years ago.

"I've developed a catch-phrase, almost a personal mantra: 'Be comfortable in the uncomfortable', "she says. "It's an invitation to open your mind to new things and I know it's hard to do.

"It requires an emotional intelligence and a degree of self-awareness so that people self-check-in all the time on their own resistance to change."

According to Francesca Komatsu is "a land of opportunity".

"There is a level of pride across the organisation — people love the brand, totally appreciated its dedication to safety and even love the merchandise which gives them an opportunity to express their support.

"The recent acquisition of Joy Global, has created genuine excitement.

"We say that we want to be indispensable to our customers and I truly believe we can."

A Daruma Doll, the Japanese symbol of perseverance and success, sits on Francesca's desk.

In Japanese culture one eye of the Daruma is painted in when a goal is set; the other when it is achieved. Bottom weighted, the Daruma can never be knocked down without restoring itself to an upright position.

"In Transition and Change we see ourselves as the Daruma doll of diversity, "she smiles.

"We always spring back up but while one eye is on the goal the other is only slowly opening." I doubt if it ever will be fully painted in because, by definition, change is never ending."

n mid-2017, Komatsu embarked on a completely new business operation when it launched its SMARTCONSTRUCTION concept in Australia and New Zealand.

SMARTCONSTRUCTION is a significant step forward in construction, quarrying and mining industry technology offering completely integrated product, service and support solutions across all phases of a project.

As Aaron Marsh, Komatsu's National Technology Solution Expert Manager — Construction, said at the time of launch, SMARTCONSTRUCTION allows Komatsu to integrate a host of game-changing technologies for the benefit of its customers.

"With these new technologies, we can now provide an end-to-end solution for our customers across construction, quarrying and mining," he said.

SMARTCONSTRUCTION covers critical steps in a project's development, from initial site survey and design, through to machine control management, machine interconnectivity and review of project progress during the construction phase, and finally development of detailed as-built information for future construction and infrastructure maintenance.

To ensure customers are able to get the best from SMARTCONSTRUCTION's capabilities, Komatsu has assembled a team of industry experts with knowledge and expertise across all facets of the civil construction, quarrying and mining sectors.

"Our SMARTCONSTRUCTION team has the skills required to work with our customers on ensuring this technology delivers the productivity and cost-saving benefits, covering operation, technical applications, surveying, intelligent Machine Control and more.

"It's the support we are now able to offer for SMARTCONSTRUCTION that will make this work," said Aaron.

"If you are a user of SMARTCONSTRUCTION, you can be sure you are in good hands.

"Customer support is at the forefront of our DNA in Komatsu, and every element of SMARTCONSTRUCTION is backed by Komatsu and its support partners," he said.

"Over the coming months and years Komatsu will invest more time and resources in this area of the business, not only as we grow our population of iMC units in the field, but also as we introduce and deploy our industry leading SMARTCONSTRUCTION products and services.

"This journey has well and truly begun – and it all starts with our customers," said Aaron.

Here is a brief summary of the background and expertise of Komatsu's SMARTCONSTRUCTION team in Australia and New Zealand.

Aaron Marsh –

National Technology Solutions Expert Manager

Aaron is team leader on Komatsu's SMARTCONSTRUCTION project, bringing many years of experience in the industry, including more than 10 years serving in the Royal Australian Engineers — Army in civil construction and plant operations.

He has been with Komatsu for the past 11 years, starting as southern region operator trainer, later moving into the national operator training supervisor role in charge of the regional operator training for customers and Komatsu's National Construction Division Training (NCDT) activities.

Over the past three years, Aaron has been the lead in launching Komatsu's iMC product range and our SMARTCONSTRUCTION service — including UAV drone services and technologies — to our customers and internal Komatsu staff.

James Mackenzie – National Remote Support Manager

While new to the Komatsu SMARTCONSTRUCTION team, James has worked for a large successful Tier 2 Civil Construction company in Sydney for past 12 years.

Initially employed as a labourer, he studied and worked himself up to leading hand and supervisor then finally a fully qualified surveyor.

He has more than six years' surveying experience on bulk earthworks, subdivisions and RMS road construction projects.

He also managed his previous employers' TOPCON GPS machine control systems, rover and base station systems as well as training operators and engineers. In addition, he is a fully licensed and CASA-certified remote pilot.

Brent Parker –

Queensland Technology Solutions Expert

Brent, who has been with Komatsu in Queensland since mid-2017, brings to the team a vast amount of civil machine control and survey knowledge, with six years' industry experience in machine automation and guidance.

With his outstanding technical civil engineering background, he has the capacity to help our SMARTCONSTRUCTION customers with best practice construction methods,

Ken Suzuki –

Southern Region Technology Solutions Expert

SAVING BENEFITS, COVERING OPERATION,

INTELLIGENT MACHINE CONTROL AND MORE."

Pictured: Brent Parker, Supporting iMC in the field.

TECHNICAL APPLICATIONS, SURVEYING,

As our Technology Solution Expert for Komatsu's Southern Region (Victoria, Tasmania and South Australia) Ken brings outstanding knowledge and skills to our SMARTCONSTRUCTION team.

He has been with the team since 2015, being involved with the successful introduction of our earliest iMC machines and SMARTCONSTRUCTION, delivering iMC demonstrations, training and customer support.

Prior to his current role, Ken worked with Komatsu Limited in Japan as design development engineer, before working for Komatsu Australia in technical service support.

Reimerd Mostert -

New Zealand Technology Solutions Expert

Rei has been with Komatsu for 36 years, starting as field service mechanic.

He successfully completed Komatsu's in-house GTI (Global Training Institute) training, and is a certified "master of customer support" across mining and construction machines.

He has also trained as application engineer for mining and guarry applications,

More recently, over the past 18 months, Rei has trained in intelligent machine control products and services, and is regarded as our Technology Solutions Expert for all things iMC.

He is based in Auckland, New Zealand.

Brad Aikin –

National Technical Support Manager Construction Excavators & Bulldozers

Brad started with Komatsu as an apprentice plant mechanic in our Sydney workshop in 2003. Once fully qualified, Brad worked in our Sydney field service operations for five years.

Identified as specialist in his field in 2011, Brad moved into a national technical support manager role responsible for construction excavators and dozers.

Over the past three years, he has gained valuable experience supporting Komatsu iMC systems on a technical level, both locally and from a factory point of view.



ain is one of the most successful gold miners on the west coast of New Zealand and while most people calculate in currency he does his budgets in ounces of gold.

His latest investment, a Komatsu D475 bulldozer — the biggest in the region — is going to return its capital cost to him in just three years at a pay back of an ounce of gold a day.

"It's good value- so much better than buying used machinery, "he said, although he has a mix of new and used machines across his claims behind Greymouth in the glacier region of the South Island.

"People in the area said I would have to work the D475 hard and long to get a payback on such a big investment," he said.

"It's turned out to be just the opposite. I use it for specific tasks and it is so quick and efficient that it is giving me a substantial return in productivity."

"IT'S THE ROLLS-ROYCE OF DOZERS."

lain's Whytegold company,

established just 17 years ago, is currently moving between 12 and 15,000 metres of material in a daily 10 hour shift and processing and washing about 15 percent of it to reclaim precious metal.

The D475 which is one of the core components of a system he has devised to optimise return has made a massive contribution and yet has worked less than 600 hours in the six months since he bought it.

"The golden rule is that if you don't have to use it, don't," he said. "The big dozer uses a lot of fuel so I expected my fuel bill to go through the roof — but I'm using it effectively for specific tasks and my total fuel bill has actually reduced."

lain struck out on his own with a single 20tonne digger and a four-foot sluice screen after working for another miner, as he put it "helping to make him millions." It was a calculated move in a volatile industry in which he says "80 percent go broke before they find enough gold to pay their way." He didn't – relying on local knowledge of claims up to 100 years old to work sites that were still rich with potential.

The giant upshift came when he invested in a 95tonne Bucketwheel excavator with a capacity of a substantial 1100 metres an hour. Its workload outstripped his ability to process the material despite the purchase of a second hand Komatsu PC600-7, "a really good digger".

lan ingenuously devised a unique way to halve the excavator's output by alternately stopping one of its two conveyor belts so that his processing system could keep pace.

It was a learning which today has resulted in an integrated production protocol which ensures all elements — diggers, dozers and trucks, as well as the screens which capture the gold trace, are utilised to their optimum. Most of the machinery is Komatsu.

Whytegold has two Komatsu bulldozers including the new D475, five PC excavators, one

a PC710 with a "mega 35,000hours", three WA loaders and four articulated dump trucks with the addition of an HM400-3 bought especially to complement the D475.

The diversity of equipment provides redundancy so that if one should be out of operation ("a rarity") there is backup. While some gold miners prefer to use one large screen to filter their sluice material Whytegold has several smaller ones, providing, lain says, a more reliable service.

lain rejects new technology when it comes to assaying and core drilling to determine the prospects of minerals beneath, preferring to rely on his own judgement and his ability to dig deeper, up to 30 metres, on his claims.

However he is a huge fan of technology in machine maintenance and has subscribed to Komatsu's Komtrax advanced satellite monitoring data service for all his new equipment.

"I depend on Komatsu for its reliability and I don't expect anything to go wrong, that's why I buy them," he said, "Operationally, Komtrax is able to give me so much data that I could not access before like revs, pressures, temperatures, load weight, or even just when the machine is being used — all on my lap top," he said.

But if something does go wrong?

"Recently we were driving a dump truck out of hole when it stopped and a sign came up on the screen to say Komtrax had detected a potential fault and had shut the machine down remotely as a precaution.

"We were in an area so remote there is no telephone coverage, yet Komtrax knew.

"Twenty five minutes later someone in Japan had not only diagnosed but rectified the problem and we were under way again."

lain is an enthusiastic driver. At 63-years of age he races a Modified Sprint Car in NZ speedway, and he has nominated himself as the principal operator of the D475.

"It's the Rolls-Royce of dozers," he said. "It's comfortable for a full shift with an air tight cab that makes it dust proof and it even has auto greasing so all you do is check it out once in the morning before you turn it on," he said.

lain still works a full shift, and more, to maintain his claims and he is justifiably proud that his "small family company" is succeeding when larger organisations with perhaps less personal commitment from their operators are struggling. His success has allowed him to contribute to his community. Recently he gave his time and financial contribution to building a new public hall and Speedway clubrooms in Greymouth and was surprised that the council recognised him with a special citation.

"Gold does silly things to people," he said. "Gold fever can lead you to make rash decisions. It's important to stay grounded."



eelong-based Newcomb Sand and Soil has been buying Komatsu equipment for the past 10 years, due to its relationship with its local rep, equipment reliability and machine performance.

Currently it owns three Komatsu excavators, a PC50MR-8, a PC200-8 and in mid-July purchased a PC220-8, replacing a WA380-3 wheel loader it had owned for 20 years.

With its head office at Moolap, suburb of Geelong, Newcomb Sand and Soil is a family-owned company, started by Doug and Joy Dunoon in 1973. Joy continues as CEO, with sons Chris as Operations Manager, David as General Manager and daughter Joanne as Administration Manager.

The company prides itself as a one-stop-shop servicing the Geelong and south western Victoria region, as well as the state as a whole, offering recycling services, retail garden supplies, and fine sand supplies, along with plant hire and subcontracting

Its recycling operations cover asphalt, concrete, brick and soils, while it operates four fine sand pits at Portalington and Inverleigh, along with two retail garden outlets in Newcomb and Torquay.

It provides hourly plant hire and subcontracting services for local councils and contractors in the region, with a complete fleet of equipment covering excavators, graders, scrapers, wheel loaders, dump trucks, trucks and trailers, crushers, screens and other ancillary equipment.

According to Chris Dunoon, Newcomb Sand and Soil bought its first Komatsu unit, a PC50MRX-2, from Komatsu's Geoff Killury in 2007.

"We went for Komatsu because I liked their reliability and service, plus the local knowledge from the likes of Geoff — his communications with us and focus on relationship. And they've all lived up to expectations," he said.

"So far, the service and support we've received has been excellent."

The company' excavators carry out a range of tasks, including general plant hire work, loading screens at crushing sites, shifting soil from site to site, and loading dump trucks at its sand pits.

"We find the excavators ideal in our sand pits," said Chris. "Being fine sand, we have to move it in layers."

The latest Komatsu PC220-8 replaced a 20 tonne unit of another make.



Pictured: The new PC220-8 excavator; has proved better in fuel efficiency, diagnostics and reliability. Chris Dunoon (Newcomb Sand and Soil Supplies).

"That machine was well worn, and we needed to replace it.

"WE WENT FOR KOMATSU

RELIABILITY AND SERVICE

BECAUSE I LIKED THEIR

"We find the Komatsu is better in fuel economy, diagnostics and reliability, plus we know we have that relationship with Geoff and knowing he'll help us if we have any issues.

"But basically we prefer to go with Komatsu in our excavator fleet," he said.

"Since it was delivered, we've found a huge difference in performance between our previous 20 tonne machine and this 22 tonner. It's more stable in our sandpit operations, and the all-new electronics make it very efficient.

"We also use the KOMTRAX remote monitoring system, with this and all our other Komatsu machines," said Chris

"It's always good to get that report every month showing us fuel economy, engine hours, idling times and so on. And if a machine is ever stolen, we have that extra peace of mind that it can be tracked."



hen 13-year-old Will Carmody's dad, Laurie, bought the family's first piece of machinery for his new farm he and his three brothers jumped in the ute and raced to see it coming off the drop deck trailer.

It was 1976- and there was great excitement. Until then they'd relied on war clearance stock, one straight from the Guadalcanal campaign 30 years before.

"Dad had bought a brand new Komatsu D60-6 bulldozer and from the moment I saw it, it was mine," Will recalls.

"My older brothers never stood a chance."

The Carmody's were already fifth generation farmers, buying and clearing vast new blocks of West Australian land, moving progressively eastward from the Swan Valley as the clan expanded.

Orderly succession has always been part of their plan, ensuring there is sufficient working property to meet the family's financial needs.

In what was then far flung Esperance on the broad acres south east of Perth, Will went to the school of the air, rushing through his studies in the morning so he could spend his afternoons on the brand new yellow bulldozer with its 12litre 155hp Cummins diesel.

"It was a huge carrot, but it also contributed to me learning so much about farming and to appreciating the land and the bush," Will said.

The Komatsu D60 is enshrined as one of the most versatile pieces of machinery of its time and the Carmodys then as now, were masters of multi-tasking.

In the hands of Laurie, Will and his brothers when they got the chance, it cleared land, dug dams, worked on vermiculite and gypsum mining, fought bush fires and,

fitted with new attachments, ploughed. It was even craned on to a ship to move grain cargo.

By the time the next generation got to drive it, it had 14,500hours up and the family had expanded to three wheat, barley and canola farms in the area totalling about the same number of hectares.

Tom, Will's nephew, was 13 too when he was first allowed to drive it on bush tracks between properties never using the implements but learning its feel. It helped that the D60 was ahead of its time with full hydraulics which made clutch and brake application easier for a young bloke.

Just after the turn of the century the steering stopped

"DAD HAD BOUGHT A BRAND NEW

KOMATSU D60-6 BULLDOZER AND FROM

THE MOMENT I SAW IT, IT WAS MINE.

working, a victim, the Carmodys thought of their using it for ploughing, round and round in one direction. It stopped

working on the farthest edge of their landholding and they backed and filled it 200 metres into a convenient shed and that's where it rested until recently.

In the meantime they'd bought a Komatsu PC300-8 for digging drains when the water table began to rise, sold it when the job was done and bought a Komatsu WA320-5 wheel loader for general farm duties. As always, they shared the machinery across all properties.

Then they bought a cattle station 1000km north, at Wiluna on the edge of the Caning Stock Route, running 3500 Short Horn cross and Hereford breeders. There were roads to be built and land to be cleared — obviously under more stringent guidelines than existed 40 years before.

Tom and his cousin Caleb went to the shed and found the D60 still filled with fuel and oil.

"We installed some new batteries, hit the decompression lever and she started first time,"

Tom said. "The steering clutches even appeared to be working, but then they failed so we had to tow her in."

A Komatsu mechanic from Kalgoorlie 400kms away had completed his apprenticeship on the D60 in South Africa and took on a special project to discover what could be done to undertake a normal repair — not a restoration, just a repair.

To the Carmody's amazement every replacement part specified on the mechanic's list, with the exception of two, was in stock in Kalgoorlie and the others could be freighted quickly from the east coast.

They trucked the D60 to Kalgoorlie, waited six weeks while the work was done- all with Komatsu Genuine

Parts ("it could have been faster but there was a bit of love involved") and then bought it back mid-harvest.

"So far there's just been time for a quick drive," Tom said when it returned. And Will, harvesting on his property, had been able to do no more than give it a glance.

"From a strictly economic perspective it's been a good deal," Tom said. "It's cost around \$22,000 all up and that includes my time and the freight costs. You couldn't replace it for anything near that -and there's a lot of productive hours left in it."

The D60 is soon to make the long haul to Tom's dad Tim, mother Louise and younger brother Jack, who are running Prenti Downs at Wiluna.

But before it goes, there was a rite of passage still to be undertaken.

Will's son Robbie, at school in Perth, had to come home for the holidays to become the fourth generation to drive it. In honour Will was considering giving the D60 a completely fresh paint job- its first in 42 years.



n mid November, Shire of Esperance took delivery of a new Komatsu D85EX-15EO dozer, making the purchase decision based on value for money, and the service and support it has received from Komatsu with other machines.

Based in the Goldfields-Esperance region of Western Australia about 400 km south of Kalgoorlie, the main industry in the Shire is farming, and it has a significant network of unsealed roads.

The primary application for the new Komatsu dozer is winning limestone-sourced material from council-owned gravel pits for road construction, said Craig Shearer, the shire's workshop supervisor.

"We use the dozer for stripping vegetation and surface material, then ripping and pushing the limestone gravel for roadbase and sacrificial materials," he said.

"In opting for the D85, we've upped the weight by 6 or 7 tonnes compared with our previous dozer, as well as increased the horsepower, so it's just fantastic.

"We've gone from about 1100 cu m a day with the previous machine to around 1500-1600 cu m, and because of the increased weight, we don't have to do so much ripping," said Craig.

"And when we are ripping, it's got a really good ripping action with the variable pitch on it. The operator and supervisor really enjoy working with this machine, so it's going really well for us."

Craig said an important element in the Shire's decision to go with the Komatsu dozer is due to the experience it had with a Komatsu GD555-5 grader it bought in 2015.

"We've had really good service, support and availability with that machine. Komatsu offers a very good warranty for the first three years — no one else seems to match it — plus it was very good dollar value.

"Originally, we had that machine doing road construction, resheeting, and so on, and we've now put it into maintenance works."

Komatsu's three-year Komplimentary Maintenance offering was a big reason why the Shire opted for the Komatsu dozer this time around.

"That's a big part of why we went with Komatsu; it really helps us in terms of value for money," said Craig.

Komatsu's maintenance people also work with the Shire to minimise inconvenience for scheduled servicing.

"KOMATSU OFFERS A VERY

GOOD WARRANTY FOR THE

ELSE SEEMS TO MATCH IT.

FIRST THREE YEARS - NO ONE

"Their nearest workshop to us is in Kalgoorlie, which is about 400 km from here, but it works really well for us.

"They are happy to do all our scheduled servicing on a Saturday

or Sunday when the machines are not being used, so we have no downtime. And because of the two-year warranty, we are not being charged for travel, filters or other parts.

"We've been very happy with Komatsu's service," Craig said. "They are constantly checking that we are happy with the machine, asking how it's going, and their people really know their stuff, which makes them great to deal with."

















NEW KOMTRAX TECHNOLOGY

ANOTHER STEP FORWARD IN ICT

omatsu has released a new version of its KOMTRAX remote monitoring system, which is easier to use and more interactive for customers, allowing increased customisation, and collecting even more data from the latest Komatsu machines.

KOMTRAX uses satellite-based Information Communication Technology (ICT) to provide constant monitoring of every machine, including operational conditions and status to help increase machine safety, productivity, uptime and availability – and reduce customers' costs per tonne and per hour.

An important element of this new version of KOMTRAX is the new website interface – compatible with smartphones, tablets and computers - that ensures users have access to information faster, and in a more easily understandable format.

KOMTRAX was rolled out in Australia, New Zealand and New Caledonia in September 2008, and earlier last year reached a milestone of 10,000 Komatsu machines covered by the system. By late 2017, more than 11.000 Komatsu machines were covered by KOMTRAX.

According to Todd Connolly, Komatsu's General Manager - Construction Solutions, this version of KOMTRAX is the latest development aimed at keeping the company at the forefront of implementing technology that better serves customers' needs.

"At Komatsu, we are leading the industry into the future with our use, application and understanding of telemetry technology, and how it can help our customers reduce their machine operating costs, and increase efficiency, productivity, and profitability," he said.

"It represents a significant step forward in our Information Communication Technology (ICT) capabilities and how they interface with our customers in an easier to use and more user-friendly way."

Todd said this next evolution of KOMTRAX was far more interactive and user-friendly for customers.

"It now has much quicker navigation - no matter what device you a using, whether a smartphone, tablet or computer," he said.

"We built this latest version with our customers in mind, so it's much easier for them to track and assess the performance of their machine.

"Everything is much easier to use, and all the data relating to each customer's machine or fleet is right at their fingertips.

"It's also a lot more interactive and 'intelligent' so you can get to the data you want."

Jacques Le Roux, Komatsu's National Manager -ICT & Fleet Management, said that in developing the new KOMTRAX, Komatsu had sought feedback from customers from around the world, as well as

"We really listened to customers to clearly understand their needs in terms of making KOMTRAX better and enhancing the user experience," he said.

"Customers have complete access to machine detail at a glance, more importantly they can view forecasted service requirements, and exclude machines accordingly from a project or jobsite while they are scheduled for periodic maintenance.

"We believe this will support customers significantly with jobsite management, because they will know exactly when machines are scheduled for a service, allowing them to better plan around that."

"IT CAN HELP OUR CUSTOMERS

REDUCE THEIR MACHINE OPERATING

COSTS, AND INCREASE EFFICIENCY,

PRODUCTIVITY, AND PROFITABILITY.

The new KOMTRAX maintains its ability to monitor operator efficiency, measuring parameters such as how long a machine

spends idling, what working mode it's in – and whether that mode is the most appropriate for a particular task.

"Although this has been a longstanding key feature of KOMTRAX, the information is now easier to access and interpret allowing follow up action to be taken faster," said Jacques.

"In addition, we are now getting more data coming out of Komatsu machines than ever before - and this latest upgrade has been designed to make the best use of all this extra data and accompanying capabilities.

"For example, with our new Tier 4 emissionscompliant engines, there's a lot more data coming off the engines, particularly in terms of monitoring the emissions control systems and elements

"That ensures customers can stay on top of their

engine emissions and equipment fuel consumption, gives them a lot more control over how they manage their machines, and also provides them with peace of mind that these critical engine management systems are working to their optimum," he said.

"The benefits of the new KOMTRAX, combined with our support capabilities in Komatsu's KOMTRAX Systems Co-ordinator.

"Users will find our move to Google Maps makes KOMTRAX a lot easier and more convenient to use; it renders faster, and you can get directions to a machine with just a single click," she said.

"Plus everyone uses Google Maps, so it's a very familiar location system.

The new KOMTRAX continues to offer its trademark machine security capabilities, Night Lock and Calendar Lock.

These unique, unrivalled services – whereby a machine can be automatically locked down with its engine disabled outside of working hours or during

> extended periods of time – prevents machines being switched on and driven away, thus allowing for better asset management.

Night Lock and Calendar Lock further maximises productivity by ensuring

machines are in operation only when they should be.

"Having said that, our main emphasis with KOMTRAX has always been monitoring the health and performance of Komatsu machines, not their location," said Mary Jo.

"We can also go beyond the standard KOMTRAX reporting parameters, and provide additional reports to customers to suit their specific needs.

"These can include capabilities such as automated reports at particular times, or triggered by certain events, tailor-made for their own management requirements."

And, unique among earthmoving equipment OEMs offering remote monitoring capabilities, KOMTRAX remains as a complimentary service to Komatsu owners for the life of the machine – including to subsequent owners.

"We have now been providing KOMTRAX to Komatsu owners in Australia, New Zealand and New Caledonia free of charge for the past five years – and we remain the only OEM to offer this service for a machine's entire life," said Mary Jo.







ith Komatsu as their chosen excavator brand for many years, civil engineering contracting company, Bolte Civil recently began using Komatsu Rental fleet plant as a new solution for to meet their equipment needs.

Working on the subdivision project "Ocean Mist Estate" in Forresters Beach, Bolte Civil needed specialist precision on the cut / fill earthworks process which a Komatsu D65PXi-18 dozer easily provided.

Bolte Civil selected a D65PXi-18 primarily for its known quality as a dozer in its own right as well as having the additional iMC machine control capability.

Bolte Civil Managing Director, Gavin Kimpton said: "The earthworks process required dozing and trimming house lots to a high tolerance and accurate design earthwork level.

"The dozer and GPS machine control capability allowed this operation to occur and meet the required tolerances in a timely and consistent manner. The iMC system was also very reliable, robust and easy to use machine control system."

Gavin said Komatsu Rental smoothed the rental working process further.

"Komatsu took receipt via email of project design/ survey files and uploaded them into the dozer on site. While they await a new Komatsu PC55 machine to be delivered, the Rental of this machine has enabled continuous work on site, to meet the projects requirements.

> "THE IMC SYSTEM WAS ALSO VERY RELIABLE, ROBUST AND EASY TO USE MACHINE CONTROL SYSTEM."





eff Wickham, a "digger" for more than 30 years and a stalwart supplier to more than 900 clients in his mid-Victorian region, has finally bought an excavator for himself.

Jeff's new PC160LC-8 is earmarked for his use alone.

"I've spent more than three decades driving what ever is left in the yard, always giving the best machinery to the blokes who work for me," the 55-year-old from Bamawm, south of Echuca said.

"But I figured I've deserved this so I've bought the best, most comfortable machine for myself."

J&CA Wickham – the CA is for his wife and business partner Clare- have been an institution in the 50 kilometre radius that surrounds the hay and lucerne property on which they've raised their three daughters, each also capable of driving the diggers. Their loyal staff, also are locals.

Whenever there's a job on that requires an ingenious solution, the Wickhams are the ones you call.

"We recently cleared a property for a woman whose parents had passed away ten years earlier and she'd finally decided to clean it up and live there," Jeff said.

"It was overgrown with blackberry bushes so dense you could hardly see the house. No-one would touch the job.

"We invented a flail mulcher that worked off a PTO on the arm of the excavator and 14 hours of operation later she had access to the house as well as three inches of very prickly mulch in the garden."

Jeff has also devised a four-foot circular saw for the front of his Komatsu D138 and it's become the woodcutter of the area, spending three months each year clearing and cutting.

Jeff runs a trucking business as well and in a neat piece of backloading uses his gravel trucks to pick up the sawn timber on the way back from their deliveries.

The Wickham business came about in the traditionally Australian way of there being too many sons to take over the family farm.

"I was doing a fair bit of seasonal hay baling but I was running out of money in between, so I took a risk, he said.

"There were a fair few back hoes operating in the area but I reckoned a small excavator would be better.

"I took all the money I had, spoke to a really good salesman and bought a second hand 3.5tonne mini excavator for \$14,000 – my entire mid-season savings - on the basis of if it went wrong the worst thing that could happen is that they'd take it away.

"And if it went right I wanted the \$14,000 back as trade in on my next digger."

Jeff put 2000 hours on that machine in the first year. He's very big on hours.

JEFF STAYS VERY CLOSE

TO KOMATSU. SERVICES TO

THE REWARD IN HAVING AN

REGULATION, HAS KOMATSU DO

REGULAR OIL ANALYSIS AND REAPS

IRON-CLAD WARRANTY SOLUTION

SHOULD ANYTHING GO WRONG.

"If you work 40 hours a week, there are 2080 working hours in the year," he said.

"I like to use all of them. Downtime doesn't exist. I service out of working hours and don't sleep much."

Jeff traded up to his first Komatsu PC45 and then up to a PC95 on which he put 23,000 hours and "made the Komatsu hall of fame."

Then he bought a series of PC60s and began employing people to alternately drive his excavators and his gravel trucks, depending on what work has been booked in

He has six of each in his yard and six employees servicing two local shires and local farmers on about a 50:50 ratio and all no more than 50kms from his home yard so he can bring his machinery home at night.

With just a couple of deviations he's stayed true to Komatsu but currently has four makes of trucks.

"There's a bit of difference between the price of the Komatsu and other diggers on the market, but I figure there's a reason for that and I've proved I can make money from the investment," he said.

Jeff has a financial adviser in Melbourne who has arranged funding for all his equipment and between them they have come up with a simple economic solution for a business operator who "flunked out in third grade".

"Whatever I buy I want to gross as much from it in the first year of operation as I paid for the machine," he said.

"I want to know to the dollar what my costs are going to be for the life of the machine and I want to know what I'm left with at the end."

Jeff stays very close to Komatsu, services to regulation, has Komatsu do regular oil analysis and

reaps the reward in having an iron-clad warranty solution should anything go wrong.

Jeff's PC160LC is the exception to his hard working rule. The "boss's digger" has put up just 400 hours in the 20 weeks since he's owned it, about half

its theoretical pay back.

"I just enjoy seeing it there," he said. "I've put up with no air-conditioning, no heater, and seats nowhere near as comfortable, so this one is for me."



here is a significant opportunity for the mining industry to unlock the potential of new digital technologies, with billions of dollars to be gained in increased productivity, efficiency and reduced costs.

To realise the full value of new digital technologies, we need to equip our people on site, on board our machines and inside our remote operations centres with access to real-time information to make decisions in real-time.

If we do this well, digital technologies have the power to deliver greater efficiencies, productivity and safety at multiple levels.

Advanced monitoring systems such as MineWare's Argus Shovel Monitor and Pegasys Dragline Monitor give surface mines a more accurate picture of their operations than ever before, bringing multiple sensors and technologies together to optimise the performance of mobile mining equipment.

Such technology delivers real time data and advanced analytics to optimise machine movements for maximum efficiency—from optimising truck and shovel payload to improving mine compliance, maintenance, safety and more.

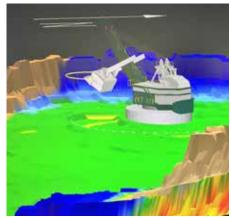
Performance monitoring and management

The IoT plays a pivotal role in the real-time monitoring and management of productivity data, reducing variability in areas such as operator performance, payload compliance and mine plan compliance. MineWare technology harnesses operational data from multiple sources in real time to deliver real-time performance improvement.

For example, MineWare's Argus System deploys direct operator guidance on-board to improve individual performance as well as remotely to benchmark and improve performance at an enterprise level. Argus brings several technologies together such as radio frequency identification (RFID) tags, sensors and GPS. New digital technologies are also helping mines to improve the repeatability or 'predictability' of their operations to deliver more consistent rates of operation and production.

The path to automation

Latest advances in digital technology are connecting machines, data and people to perform faster, safer and more reliably. To fully leverage the opportunity that lies ahead, collaboration, integration and agility is key. We must find a way to integrate new technologies and take a coordinated approach to embedding these across the entire value chain—from machine functions and processes to complete system integration.



Pictured: Real-time data and advanced analytics optimise machine movements for maximum efficiency.

DRAPERS NEW KOMATSU GRADER - A SUCCESS

amily-owned Draper's Civil Contracting, based in Geelong, Victoria, is a long-term Komatsu owner with over 45 machines in its fleet; it recently purchased its first Komatsu grader — which has received outstanding feedback from its operator.

The company, which has been in the business for over 40 years, carries out a full range of civil works, including roads, drainage, subdivisions, sewer, water and gas reticulation, as well as plant hire, heavy haulage, bulk earthworks and dam cleaning.

It operates primarily in the Geelong region to the west of Melbourne, along with the Surf Coast Shire, Golden Plains Shire and surrounding regions.

The company was started by George Draper in 1971, with his sons Vic joining in 1977 and David joining in 1985. Today, David and Vic run the company.

Now a third generation is joining the company, with Vic's son Harry operating one of its Komatsu PC220 excavators, and

David's son Isaac working in the business part-time while attending university.

Its fleet of around 20 items of Komatsu equipment includes its new GD555-5 grader, bought in mid-2017, along with two PC300-8 excavators, eight PC220-8 excavators, a PC88MR-8, two PC55MR-3s, a PC27MR-3, a WA250PZ-6 toolcarrier loader, six WA150-3 compact wheel loaders, a WA100M-6 and a D65EX-12 dozer.

"We've been buying Komatsu equipment for 20-25 years — particularly excavators and wheel loaders," said Vic Draper.

"I come from an operating background, and I firmly believe Komatsu makes the best excavator on the market.

"And they support the product very well; we've had very little downtime the whole time we've owned Komatsu machines."

"Our grader operators had a strong preference for steering wheel drive controls, so that ruled out one alternative. We'd also tried another brand, and we wanted to see how the Komatsu machine would go against the other two.

"We've only had it three or four months, and so far the feedback has been very good.

"Our operator, David, was very one-eyed in his grader preferences, but I think we've converted him to Komatsu.



"What he likes about it is the great visibility, and the smoothness of its operation, both across its hydraulics and transmission," said Vic.

The operating weight of Komatsu's GD555A-5 is 17.1 tonnes, with variable power up to 144 kW (depending on which gear is in use) from its Komatsu Tier 3-compliant SAA6D107E-1 engine.

Komatsu's construction grader line claims the best cab visibility of any grader on the market, through a hexangular ROPS cab incorporating a patented front Y-shape pillar and rear side pillar to give better visibility in all grader applications.

A cast circular saddle linkage provides an unobstructed view of the blade and front tyres, while a tapered engine hood provides good visibility to the rear of the machine, particularly the rear ripper.

This series grader also incorporates Komatsu's unique dual transmission system, designed to give operators the choice of direct drive (manual) transmission, as used on conventional graders, or torque converter transmission for improved control at low speeds and in final finishing.

A powershift transmission, designed and built specifically for Komatsu graders, provides on-the-go, full power shifting as well as inching capability and automatic shifting in higher ranges.

When power for tough grading or low-speed fine control is required, the operator can select the Torque Converter auto (T/C Auto) mode for significantly more tractive effort and control.



BEST EXCAVATOR ON THE MARKET.



omatsu Australia's contribution to the Beacon Foundation – which takes a preventative approach to youth unemployment through a number of programs that engage with young people through schools, education and training initiatives – continued throughout 2017.

This represents the 18th year that Komatsu has been involved with supporting Beacon's activities and programs, since this close relationship began in 1999.

In 2018, Beacon will be celebrating 30 years since its establishment in Tasmania in 1988, and Komatsu has been one of our longest-standing supporters.

The commitment from Komatsu Managing Director Sean Taylor is a key part of the success of the relationship between the company and Beacon Foundation.

This support continued during 2017, with Komatsu volunteers contributing to core Beacon activities throughout the year.

These activities included a number of specially developed Beacon programs, including Speed Careering, mock interviews, Business Blackboard lesson plans, Collaborative Classrooms, and Work Exposure.

They included working with students from schools in NSW, Queensland, South Australia and Victoria.

It's also highly gratifying to see the personal rewards that Komatsu people get from their engagement with Beacon, with some very positive feedback from participants.

In particular, one Komatsu volunteer highlighted the "ability to impart knowledge to the young people, which is something that I am so passionate about. Our first group was so engaged and a pleasure to present to; a lot of potential in the people in that group".

Successful activities delivered by Beacon during 2017 included our 'High Impact Programs' (HIPs), a series of one-day work readiness workshops, run in schools or workplaces in conjunction with business mentors who meet with students face to face.

During 2017 Beacon delivered 240 HIPs, involving 4400 students, 978 industry representatives from 600 organisations, and 301 educators.

Beacon also continued to have successes with its MyRoad program, an online mentoring program for girls, delivered via video chat technology.

In 2017, more than 1000 students from 50 schools took part in MyRoad, with 95 mentors from 38 companies involved.

Finally, in what was a highlight for the year, we were delighted that our online eBeacon platform achieved national recognition in the Community Service category of the 2017 Australian Information Industry Association's iAwards ceremony in Melbourne.

eBeacon is the first program of its kind in Australia, facilitating online communication between secondary school teachers, industry volunteers and students.

It enables Beacon to reach more young people than ever before, and ultimately improve student, employment and community outcomes.

What Beacon students had to say about interactions with Komatsu during 2017

Here's some feedback comments from various Beacon students involved with programs that included participation from Komatsu people and/or visits to Komatsu facilities during 2017.

From a Business Blackboard program in March 2017, in conjunction with Komatsu's branch.

"I feel like I know what employers want and how I should behave in the workplace."

"They helped motivate me and made me realise that with most jobs you need to start at the bottom to get to the top."

From a Resume session (held in conjunction with Origin Energy?) in May, with Eagleby Learning Centre Students (Old), at Komatsu's Brisbane facility "My understanding of employment is vastly increased."

"It enlightened me to certain situations which can make or break a CV."

And from a site tour of Komatsu's Brisbane facility, again with Eagleby Learning Centre students in May

"I saw lots of opportunities or jobs I can enter in future. It also made me prepared for the real world and understanding life even better."



n September 2017, Komatsu employees were invited to participate in the Steptember Challenge. This initiative is run by the Cerebral Palsy Alliance – and is a charity event encouraging people to take 10,000 steps a day for 28 days straight in the month of September.

Komatsu raised an incredible \$25,000 by stepping up to the challenge. In addition, several fundraising events were organised including a 'silent auction' raising a substantial money donations by employees for the Cerebral Palsy Charity.

The purpose of Steptember is to raise awareness and support for kids and adults living with cerebral palsy (CP), a disorder caused by abnormal development or damage to parts of the brain that control movement, balance and posture.

Cerebral palsy is an umbrella term for a group of disorders. It is a condition that is permanent, but not unchanging and it effects 17 million people worldwide.

Cerebral palsy symptoms are:

- » Poor coordination
- » Stuff muscles
- » Weak limbs
- » Trouble swallowing
- » Trouble speaking

Every dollar raised through the Steptember Challenge will provide vital equipment, therapy and essential services to those suffering from the disorder.



Pictured: Komatsu Head office Silent Auction, a fundraiser to raise money for Cerebral Palsy.



KOMATSU'S ONGOING SUPPORT FOR RIDE TO CONQUER CANCER

TEAM KOMATSU AS PART OF TEAM MACA

RAISED ALMOST \$100,000 THROUGH OUR

BULLET PROOF 10 RIDER SQUAD.

omatsu employees have again participated in the annual Ride to Conquer Cancer event — a two-day ride organised every year to raise funds for cancer research.

The MACA Ride to Conquer Cancer is a cycling journey, a fundraising crusade and an unforgettable experience to support the Harry Perkins Institute of

Medical Research. Cycling 200 kilometres, cyclists ride through Perth's beautiful countryside in unity to promote that cancer is no match against our conviction to conquer it.

Funds raised through the Ride aid the institute in improving the health of Western Australians through cutting-edge research that translates into new ways to prevent and treat the disease. Numerous research programs are now underway due to the funds raised by the Ride in previous years including breast, prostate, melanoma, colon, head and neck, and liver.

The annual Ride attracts thousands of riders and their supporters, allowing individuals and communities to

come together to make an enormous difference to the future of Western Australians and cancer research and treatment.

This year the Ride to Conquer Cancer raised an astounding \$4.5M, with lead sponsor and high profile Komatsu customer MACA raising an impressive

\$1.2M of the total amount. Team Komatsu as part of Team MACA raised almost \$100,000 through our bullet proof 10 rider squad which included

Glenn Swift - Regional General Manager Western Region, Grant Menhennett - BDM Major Accounts Manager Quarries, Troy Brown - Key Account Manager and Dylan Grantham - Customer Support Sales Representative.

"This is the sixth annual MACA Ride to Conquer Cancer and every year the Ride is a powerful tribute to people who suffer from this terrible disease", said Professor Peter Leedman, Director of the Harry Perkins Institute of Medical Research. "The riders are remarkable. They fundraise throughout the year to support cancer research because they want to make a difference, and they train for months to complete the 200km round trip."



Pictured: Scott Newman, National Business Manager – Undercarriage, Parts.









KOMATSU APPRENTICES RAISE \$3,300 TO HELP HOMELESS YOUTH

pprentices from Komatsu Australia's Central Region (NSW) recently had a sleepout at Kurri Kurri TAFE in the Hunter Valley as a fundraising effort for Youth Off The Streets – raising over \$3300 in the process.

Sixteen apprentices across Komatsu's years one to four intake, along with Komatsu regional management representatives, participated in the sleepout, which is an annual event.

As part of the event, Kim Lenard, from Youth Off The Streets presented some statistics about the challenges and issues facing young Australians in the 12-22 age group who are sleeping rough on our streets every night.

The following morning, participants had a presentation from representatives of NSW Police on drug and alcohol impairment and testing, along with responsible drinking and licensing requirements.

Organiser Gavin Manning, Komatsu Australia's Central Region Capability manager, said the Youth Off The Street's annual sleepout was a valuable initiative for the company's apprentices.

"It's a great fundraising event for a terrific cause, it gives our apprentices the opportunity to learn about the challenges facing disadvantaged people of their own ages, and it helps bring home to them the potentially devastating effects of drug and alcohol abuse," he said.

"Komatsu Australia is very proud to be involved in this annual event."



"IT GIVES OUR APPRENTICES
THE OPPORTUNITY TO LEARN
ABOUT THE CHALLENGES FACING
DISADVANTAGED PEOPLE."

Komatsu Kids Corner

Health and Safety are Kim, Matt & Sue's top priority.

Tick \checkmark the box where the technician is doing the RIGHT thing.

Cross × the box where the technician is doing the WRONG thing.





















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