

CAT[®] MAGAZINE

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CAT[®] CONNECT TECHNOLOGIES

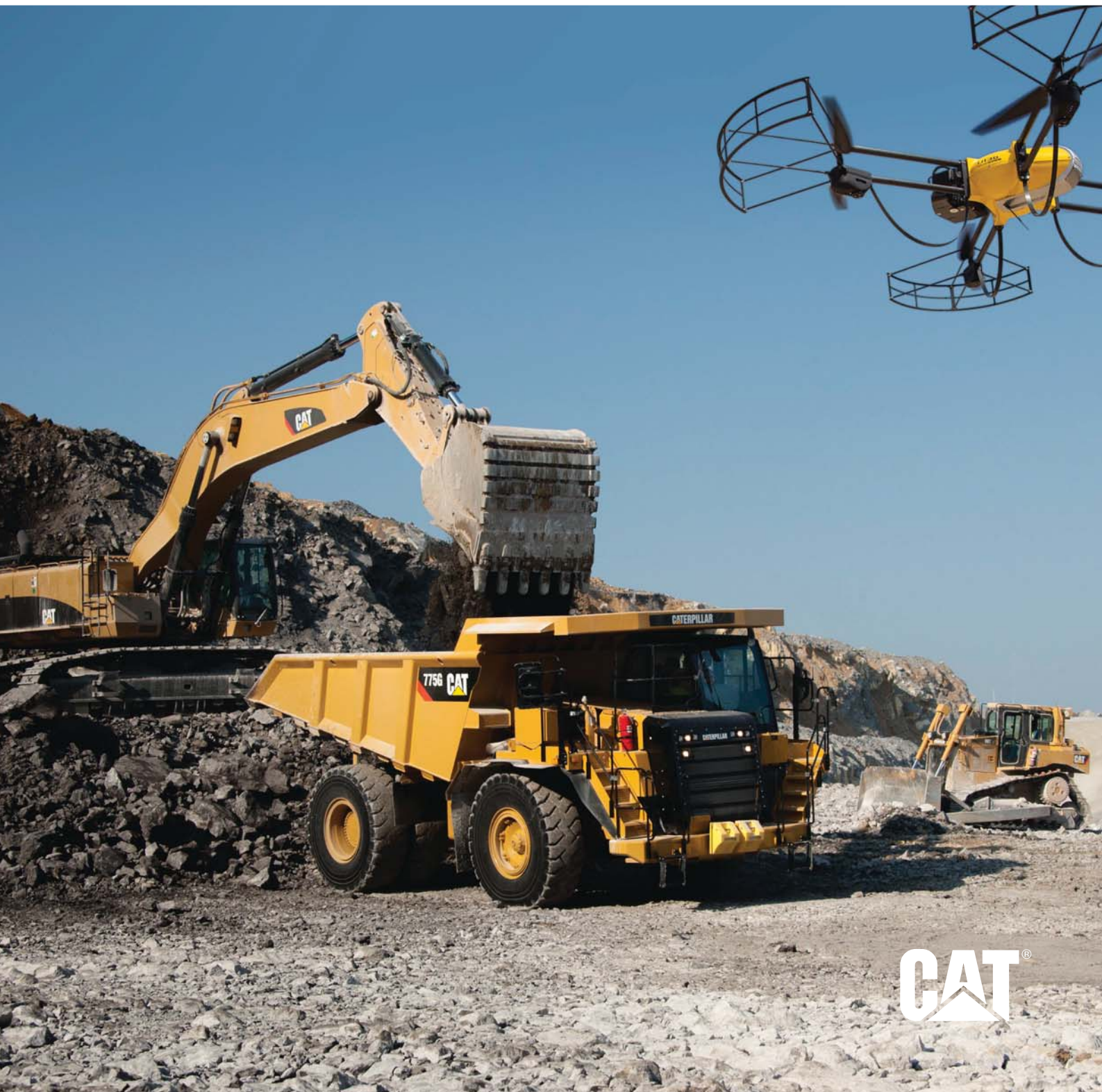
THE CORNERSTONE FOR
WORKSITE EFFICIENCY

THIS 100-TONNE SHOVEL
IS THE TOTAL PACKAGE

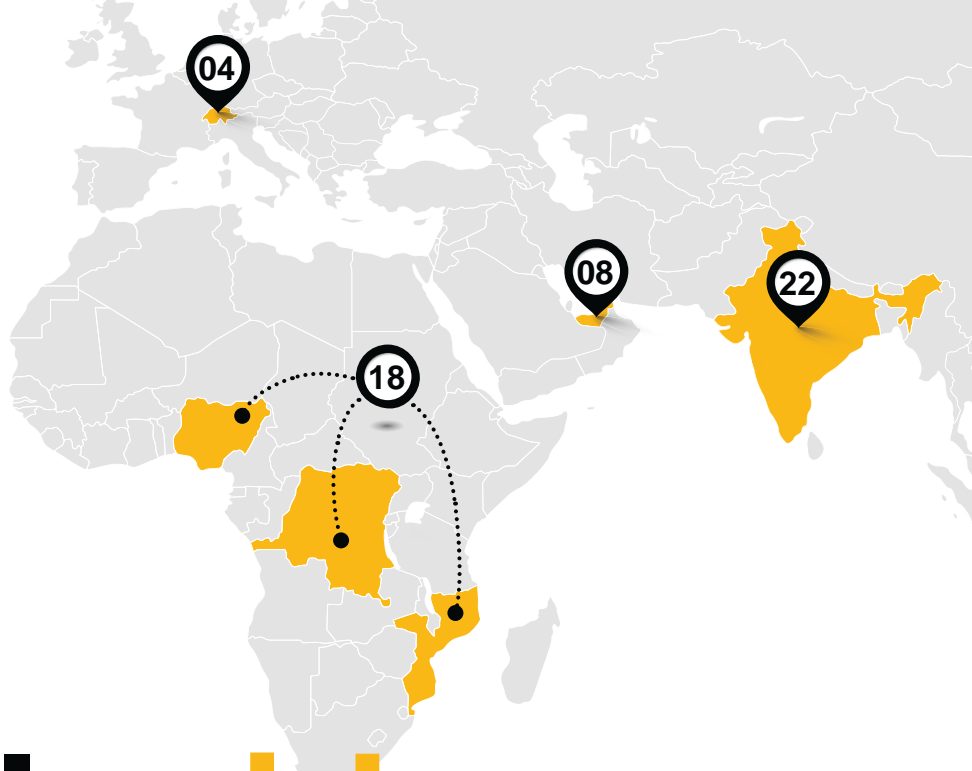
THE NEW CAT 6015B

REACHING OUT TO REMOTE INDIA

SPOTLIGHT: CAT 424B



CAT[®]



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COLOPHON:

Above is just a taste of what's in this issue – you'll find plenty more news and views inside. If you have an idea for a story for a future issue, contact our publishers at catmagazine@cat.com

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DEAR READER,

The business environment for today's construction companies of every type is very different from even just a few years ago. Customers are now focused on efficiency more than ever. Controlling costs and maintaining cash flow is critical for success.

Products like Cat equipment and machines do make a difference by reducing fuel costs and increasing productivity. However, there are several other factors that affect customers' bottom line, such as operator techniques and technician training. Each has a major impact on key success factors. This is why we are constantly refining and retooling our machines and providing on-going training for Caterpillar technicians, dealers and other Caterpillar employees – as we will continue to do.

That kind of customer-focused commitment can be found throughout this issue of Cat Magazine. First, we have several new product introductions on a range of equipment that is designed to help our customers to succeed in this current environment and for years to come.

Also featured is an in-depth article about how technology is enabling customers to drive and take advantage of greater efficiencies. You'll learn how the opening of a new training center in Dubai is strengthening aftermarket support in the African and Middle East region. And, you'll read about an important program in Africa that provides free technical training through e-learning.

If we have one focus, it's making sure our customers are more successful when they use our equipment and services than when they use any other manufacturers. This issue proves that we are truly focused on that goal.

Hamid Lavassani,
GCI EAME Sales & Marketing General Manager

WHAT INSPIRES OUR **Contributors**



Kjeld J. V. Jespersen,
Technology

Kjeld leads a team of Caterpillar Construction Technology & Solutions specialists who help customers manage equipment, improve safety and lowering environmental impact. In addition to his engineering and business degrees, Kjeld has also been an army officer and has experience with the oil industry, non-governmental organizations, communications and electronic manufacturing.



Dodi Hendra, Caterpillar
Dubai Learning Center

Dodi started working for Cat dealer Trakindo in 1999 as a Trainee Mechanic. He became a Training Instructor and was promoted to Training Supervisor. He then joined Zahid Tractor from 2008 to 2012 as Training Controller. He began working with Caterpillar as a Learning Consultant in 2013. Currently, he works as the Learning Center Manager for the Caterpillar Dubai Learning Center.



Mehul Atree,
Technicians for Africa

Mehul is a mechanical engineer who studied at the Birla Institute of Technology in Dubai. He joined Caterpillar as a Service Operations graduate and is currently an Equipment Management Consultant, covering the Africa Middle East region. Besides the Technicians for Africa Project, he has been involved in initiatives related to the Global Service Excellence Program and Customer Experience.



Amy Chen,
Cat Finance

Amy started with Caterpillar in 2004. She has worked for various business units in internal communications and is currently a Marketing Consultant for the Financial Products Division. She manages external marketing and communications for financial products in Asia Pacific and EAME regions. Prior to Caterpillar, she worked in Marketing for Affina in Peoria (IL) and Whirlpool Corporation in Naperville (IL).

TECHNOLOGY HELPS BUILD CUSTOMER SUCCESS

A GLIMPSE INSIDE CAT® CONNECT COMPONENTS



Cat Connect GRADE and GRADE with Assist

A precision grading system that uses advanced technologies and automated machine control to simplify and speed up the grading process.



Cat Connect COMPACT

An exclusive, yet simple, Cat technology and a highly visual Cat Connect component that streamlines compaction processes for fewer passes, a lower cost and more uniformity.



Cat® Connect is a suite of technologies and services that can be mixed and matched to help customers maximize jobsite and machine efficiency. It works by using the data from technology-equipped machines to provide information and insight to meet the challenges of any jobsite.

Whether the goal is to reduce fuel costs, streamline production or maximize machine uptime, Cat Connect provides a range of options for success and profitability, regardless of fleet size.

“Cat Connect gives customers multiple options and solutions for added productivity and savings that positively affect customers’ bottom lines. Technology makes customers more profitable.”

Kjeld Jespersen, EAME Manager for Construction Technology and Solutions



Cat Connect LINK

VisionLink® is an easy-to-use, web-based application that helps customers view and manage machine use, health and maintenance to boost efficiency and productivity.



Cat Connect PAYLOAD

A payload accuracy tool that helps customers increase and optimize production and reach 95 to 98 percent capacity.



Cat Connect GRADE and GRADE with Assist GRADING IS PRECISION WORK

Many customers that regularly perform grading, rely on Cat Connect GRADE and Cat Connect GRADE with Assist. The systems combine data, guidance technologies and automatic machine control to help operators create consistent and extremely accurate grades.

In the cab, easy-to-read displays provide real-time cut and fill feedback, while 3D maps guide operators to grade. "Cat Connect GRADE tells the operator where his bucket is relative to a predetermined depth," Kjeld explained. The system also helps save time, fuel and machine wear and can boost efficiency by as much as 50 percent.



“After some years, we came back to Caterpillar thanks to the technology offer. We got a 323E with Grade Control and we are really satisfied. Performing production studies, we discovered that to move the same quantity of material, we can have less fuel consumption compared to others machines.”

Manager from an Italian company

“We realized early that, by using machine control and guidance systems, we could significantly increase productivity. I use 2D and 3D systems in earthmoving and road construction to increase productivity and avoid unnecessarily moving dirt to reach the desired design quickly. I find Cat Connect GRADE with Assist very good because it is integrated in the machine from the factory and can be used immediately.”

**Schwinn Bagger-u.Fuhrbetrieb
(German contractor)**

“We are using a wide variety of machine control and guidance systems at our jobsites. We use them quite extensively so we barely have stakes on the ground, which leads to greater productivity and efficiency.”

**Josef Rädlinger (German
construction company)**

Cat Connect COMPACT COMPACTION IS ALL ABOUT ACCURACY

With Cat Connect COMPACT, site preparation, road building and landfill maintenance are simpler, faster and highly more uniform. The system uses Machine Drive Power (MDP), an exclusive Cat technology, to measure how much energy is needed to move a machine forward, and can be more consistent than accelerometer-based systems.

“The analogy we like to use when describing MDP is that if you were to push a wheelbarrow through wet, soft soil, it takes more power than on a paved road. COMPACT works the same way. A sensor measures how much energy is needed to move the machine forward while an in-cab screen displays a color, depending on how accurate the compaction is,” said Kjeld.

“During the construction of clay core for a rock fill dam, not only did the Machine Drive Power technology more than double our productivity, it alerted the operator to a material issue that was able to be fixed before it became a much bigger problem.”

George Nathanailidis, Vice President, TENA SA

“I was making 12 compaction passes across a dam. After measuring, it was determined that the number of passes could have been cut to eight. Over the entire project, the entire distance saved for compacting was about 4,400 kilometers.”

Operator, TENA SA



Cat Connect LINK

JOBSITES CAN BE VAST AND COMPLEX

Just knowing where machines are operating, how well they are running and determining productivity is a monumental task.

LINK uses wireless connectivity to communicate with other Cat Connect technologies to monitor everything from fuel burn cycles to maintenance schedules, idle time and payload efficiency. "LINK is like a machine's cellular phone. Information is sent to a server and visualized on a web-based, user interface," said Kjeld. "Customers can then take that information to increase productivity and efficiency and lower costs. For example, in the past, 30 to 40 percent machine idle time was not uncommon to have."



“ We are currently collecting information from machines through VisionLink. After receiving data from our dealer, we realized our fleet is idling 10 percent more than the regional average. Our goal with VisionLink is to identify crews that are efficient at specific construction sites. ”

MJ Eriksson (Danish construction company)

“ We do grading jobs such as slopes and embankments in railway and sewage projects by using the 3D AccuGrade™ system. VisionLink allows us to track machine hours, location and fuel consumption. We also know the utilization rate of machines, and this helps in refining price quotes and bids and to adjust our margin without incurring a loss. The market is turning very competitive here and VisionLink helps us win 50 percent of our bids. ”

H&R Jokumsen (Danish contractor)

Cat Connect PAYLOAD

JOBSITE PRODUCTION IS VITAL

Cat Connect PAYLOAD helps customers ensure short cycle times and accurate payloads. Operators can view individual bucket payloads in real-time inside the cab as well as daily productivity for precise truck loading and increased productivity.

“The system is quite simple,” said Kjeld. Besides improved efficiency, there are two main customer benefits. The first is preventing truck overloading. If a truck is overloaded, the truck wears more quickly and it is also a safety hazard on public roads and there can be significant fines. The second is to track materials, like in a quarry. Customers can determine how many tons of material go into the truck, the crusher and how much aggregate is moving out of the quarry.

“ I use Cat Connect Production Measurement on my 336F XE from time to time to check how much payload I have on my bucket, and also how much is left to fill the truck. ”

JMS Swiss contractor

“ Cat Production Measurement on our 336EH helped us to measure contaminated material we had to unexpectedly remove on a jobsite. We used the data along with the volume calculated from the as-built 3D model (AccuGrade) to demonstrate the extra work we had to do and send a separate invoice to the road authority. ”

Barslund (Danish contractor)

“ It is important not to overload the trucks, because not only the driver gets a fine but also the company that loaded the truck. It's also important for me to enter the trucks' identification into the Cat Production Measurement system to track daily payload on the jobsite. ”

JMS Site Manager



On January 6, 2015, a small team of Caterpillar management and dealer leadership representatives broke ground at the new Caterpillar Regional Training Center for the Africa and Middle East Regions (AME) in Dubai, United Arab Emirates. The 1,700-square-meter center took just 12 months to build and is located at Caterpillar's Middle East parts distribution center in the Jebel Ali Free Zone in western Dubai.



Standing left to right: Ahmed Elhassan, Marine Service Instructor; Afif Fathoni, Machine Service Instructor; Jose Pandare, Electric Power Service Instructor; Roydon Gracias, Learning Coordinator.

A new *TRAINING CENTER* that delivers *CONFIDENCE*

At the Caterpillar Regional Training Center, dealer aftermarket support personnel and customers can each receive in-depth, hands-on technical and sales training related to Cat machines as well as energy and transportation products.



"This Caterpillar Regional Training Center is a key part of our strategy in the AME region. It helps 7,000 Caterpillar aftermarket support personnel strengthen their skills and knowledge about the latest Cat products and technologies," said Dodi Hendra, Dubai's Learning Center Manager.

Phil Kelliher, Vice President of Americas Distribution Services Division, echoed Dodi's thoughts. "Today, we face increased competition and customers have more service

options. Because our service technicians have direct contact with customers, the instruction here will assure we deliver a consistent and exceptional service experience."

REGION-SPECIFIC TRAINING

Dubai has emerged as one of the world's leading business centers and regional hubs, making it easily accessible from any AME country. "With state-of-the-art infrastructure and



"The bottom line is that we want to provide dealers with support that is second to none. This way, customers have the utmost confidence in Cat products and services we offer, while saving them time and money. We are aiming to be the best."

Dodi Hendra,
Learning Center Manager

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**INVESTING IN THE
FUTURE OF LEARNING**

a world-class professional environment, Dubai is ideal for AME region training," Dodi stated.

And, according to Raymond Chan, Vice President, Asia Pacific CIS Africa Middle East Distribution, "This endeavor is an integral part of our growth plans for the AME region. It assures our growing customer base that Caterpillar and its dealers provide unsurpassed support."

The center also features a lab for Scheduled Oil Sampling (S•O•S™) to help dealers meet critical customer turnaround times for emergency sampling. In addition, there is a 1,000-square-meter yard for machine maneuvering and inspections training, plus space to support future expansion of gas engine and solar power training. ■

Additional details at: www.cat.com

The Caterpillar Regional Training Center is not just an investment in the future of Caterpillar; it's an investment in people. The center employs close to 40 people from different departments:

- 6 people in the training department
- 6 people in the oil lab department
- 28 people in the marketing office
- 2 people for office support

CAT 6015B

BOOST YOUR

WORK HARDER, FASTER

The new Cat 6015B hydraulic shovel is a more advanced and improved rebirth of the Cat 5110B, building upon its strong reputation for reliability, and providing greater fuel efficiency and production capability than other shovels in its class.

This new machine has everything mining, quarry and aggregate, and heavy construction customers desire in a 100-tonne shovel. Field-proven Cat components and integrated technologies have been used extensively to make this shovel reliable, fast and efficient, and the numbers tell the story. "We have demonstrated over 15 percent productivity and 20 percent fuel efficiency advantages over leading competitors in the same size class," said Tony Donovan, Industry Marketing Representative for Hauling and Extraction Equipment. ■

Additional details at: www.cat.com/6015B

Cat 6015B hydraulic shovel specifications:



| | |
|---|--|
| Weights | |
| Operating Weight | 140 tonnes (154 tons) |
| Ground Pressure | 16.3 N/cm ² |
| Note | 700 mm (28 in) track shoes, 7.6 m (24 ft 11 in) boom, 3.4 m (11 ft 2 in) stick |
| Engine | |
| Engine Model | Cat C27 ACERT™ |
| Gross Power – SAE J1995 | 606.0 kW (813 hp) |
| Net Power – SAE J1349 | 556.0 kW (746 hp) |
| Emissions | U.S. EPA Tier 4 Final, Tier 2 Equivalent or Tier 1 Equivalent |
| Bucket | |
| Standard Bucket Capacity – Backhoe (Heaped 1:1) | 8.1 m ³ (10.6 yd ³) |
| Operating Specifications | |
| Bucket Payload | 14.6 tonnes (16.1 tons) |
| Operating Weight | 140.0 tonnes (154 tons) |

PRODUCTIVITY

The larger standard bucket means one less pass with ideally matched trucks, such as the Cat 773, 775 and 777, compared to leading standard equipped competitors.

R PRODUCTIVITY

EFFICIENCY

Proprietary Cat integrated engine control technologies, a boom float feature that reduces engine demand, and a closed-loop swing system that regenerates swing energy, make 6015B extremely fuel efficient.

SERVICEABILITY

All major components are easily accessible. Centralized lubrication points and a fast-fill fuel system are at ground level. High-powered lights help make maintenance safe and easy.

RELIABILITY

Extensive use of proven Cat components, like the D11T dozer undercarriage design, and bolstering of all structures, means reliable performance.

SAFETY

Enhanced safety features include optimized operator visibility, multiple egress points and a wide crosswalk for safe access to service areas.



The new TH D Series telehandlers: built to be e

Caterpillar began making telehandlers in 1989 with the RT Series, which has evolved into the TH D Series. Building on the success of the TH C Series, the new range features innovative technologies with increased performance and visibility. According to Matthew Kelly, Telehandler Product and Marketing Specialist, the driving forces behind the introduction of these new machines are to fill size class market gaps and create innovative solutions for customers.

TH306D

The compact TH306D is built and designed to work in constricted and enclosed spaces. With its six-meter lift height, the three-tonne machine is ideally suited to applications including livestock feeding, loading, and bale stacking. The combination of lift height and compact design provides customers with a new solution to space restriction.

- Two-section boom
- 3.6-liter engine (100hp) meets EU Stage IV emissions standards
- Hydrostatic transmission
- 32kph travel speed

TH3510D

The larger 10-meter lift height TH3510D is the ideal machine for applications on the farm such as high bale stacking, as well as operating on space restricted construction sites and rental applications.

- Three-section boom
- Cat 3.4B (100 hp) ,or 4.4 engine (124 / 142 hp) meets EU Stage IV emissions standards
- Six-speed powershift transmission



"The new TH D Series telehandlers provide solutions to market demands by offering new size classes to customers, and building on the success of the TH C Series. Customer and dealer feedback from trade-shows, such as Agritechnica, has been outstanding, representing a positive and exciting opportunity for Cat Telehandlers."

Matthew Kelly, Telehandler Product and Marketing Specialist

SMALL MACHINES

Three new wheel loaders lead the way



The new Cat 910M and 914M, plus the all-new 918M, include many new features that further enhance customer value. "Emissions were a key factor in creating these new models. We meet EU Stage IV emission standards and have improved fuel efficiency as well as machine performance. We also included new options and features that further enhance operator comfort and safety," said B.J. Meier, Compact Wheel Loader Marketing Engineer.



"We believe it's the best cab on the market. The feedback we've received from dealers and customers is extremely positive. We've carried over the best touches from the previous cab and added to that."

Jas Kundra, BCP Wheel Loaders Product & Application Specialist

efficiently powerful

COMFORTABLE ERGONOMIC CAB

Our new cab design, with adjustable arm rest, provides operators with an exceptionally comfortable environment to work in. Intelligently designed controls and multi-function joystick with F-N-R helps operators get the most out of their machine.

OUTSTANDING SERVICEABILITY

The TH306D and TH3510D share several characteristics that make them outstanding, productive machines. One of which is serviceability. "As with all our telehandlers, we emphasize serviceability. For example, it is easy to access the engine and daily service points, making routine maintenance easy," said Matthew.

SHARED FEATURES AND BENEFITS:

- A Hydraulic reverse demand fan easily removes dust and debris.
- B Excellent stability without sacrificing turn radius.
- C Limited slip differential locking and dual axle braking help tackle tough terrain.
- D Flow sharing valves ensure quick cycle times and simultaneous lifting and extension of the boom, saving you precious time.
- E An optional advanced display screen shows machine diagnostics, and links to reverse camera and weigh-load management system.
- F Cylinder snubbing reduces the impact when retracting the boom fully.



TAKE ON BIG JOBS

ENJOY ALL DAY COMFORT:

- Deluxe cab with tilt steering wheel and a heated, air suspension seat designed for all-day comfort
- Low-effort, multi-function, loader-control joystick reduces operator fatigue
- Suspended pedals for easy clean out
- Whisper quiet sound levels
- LED light packages and rearview camera options maximise visibility and safety.

CUSTOMIZE YOUR EXPERIENCE:

- Fine tune machine performance with adjustments at your fingertips through soft touch buttons
- An implement-modulation system with three-levels of hydraulic control let you adjust the lift and tilt speeds to match the task at hand.
- Hystat™ Aggressiveness Control provides three levels of shifting smoothness and directional-change response to match operator preference.
- Adjustable rimpull allows the operator to match the machine power with the underfoot conditions.

WORK MADE EASY:

- Move more with Caterpillar's patented quick loading Performance Series buckets and optimized Z-bar linkage. The parallel lift and high tilt forces allow you to safely handle loads. Multi-function work has never been easier with dedicated pumps and a flow sharing implement valve.
- Available with either an ISO Coupler or an Integrated Tool (IT) Carrier Quick Coupler to make changing tools quick and easy.
- High-lift booms (910M, 914M) provide 14 inches (335 mm) of added clearance for applications where lift height is critical.

A FIT-FOR-LIFE SOLUTION

Besides having exceptional service access, the new M Series machines don't require a diesel particulate filter, reducing the maintenance costs throughout the life of the machine. BJ Meier explains. "Thanks to our machines' hydraulic valve lash adjusters, customers don't have to adjust valve lashes every 2,000 hours. On competitors' machines, however, not adjusting the valve lash while using a diesel particulate filter will clog the filter and negatively affect their machine performance. So by adding this feature, it decreases the amount of maintenance customers have to perform, which is a big deal for our customers."

A **FULL LINE** of **CAT WHEELED EXCAVATORS** is ready to work



M318F



M320F



MH3022



MH3024



M322F

2015
2016



M314F



M316F



M315F



M317F

In 2014, Caterpillar began turning an ambitious plan into reality by launching a fleet of seven wheeled excavators for the new M300F Series. The first two machines introduced were the M318F and M320F, followed by the material handling models MH3022 and MH3024. Then, the M322F was added. By the beginning of 2016, two additional models were introduced, the M314F and M316F.

However, Caterpillar recognized a shift in the wheeled excavator market. So, the team reacted fast to develop two compact radius models, the M315F and M317F, designed to work in tight areas, such as within cities and on narrow roads. "The M315F and M317F are compact, without compromising performance, stability and versatility. Plus, they have a large working range and excellent lifting capacity," said Alfons Braun, Caterpillar GCI Wheeled Excavator Product Application Specialist.

With a total of nine F Series machines, these final two wheeled excavators are a focus for this year's Bauma Exhibition. "The M315F and M317F fit right in with the F Series model line. I think customers will be impressed," added Alfons.

LOOKING FORWARD

Caterpillar also plans to introduce a M323F end of 2017, which is a wheeled excavator for use on railroads – a first for Caterpillar. "While having introduced the new models we will continuously improve and upgrade the model range with additional features. Never have we had more options for our customers. We can now truly reach global markets with these amazingly versatile products," Alfons concluded. ■

Additional details at: www.cat.com

A FULL RANGE OF 15 MODELS TO SERVE THE WORLD

All nine F Series machines meet EU Stage IV and US (EPA) Tier 4 Final emission requirements. However, Caterpillar offers six additional models for less regulated countries, including the M315D2, M317D2, M320D2, M322D2, M322D2 MH and M324D2 MH. "What's great is that these machines basically have a bullet proof fuel filtration system," Alfons said confidently. "We don't encourage using bad fuel, but the D2 Series' filtration capacity is about five times better than the D Series."

Best-in-class technologies like Smart Boom™ reduce the need for hydraulic flow and lowers fuel consumption.

Best-in-class ride control system that uses accumulators to absorb the weight shocks of the boom, resulting in smooth travel.

Dozens of different Cat work tools are available, plus, 10 different tool settings are pre-programmed, which can be activated just by pressing a button.



Road construction

“Cat wheeled excavators have many best-in-class features, including maneuverability. Ergonomically, everything in the cab is situated perfectly. Interior sound levels are drastically reduced. And, we’ve taken these machines to the next level by adding standard features that were previously options, like the side view camera. It was also important to our Cat engineers that the new F Series offers best-in-class fuel efficiency.”

Alfons Braun, Caterpillar Global Construction and Infrastructure (GCI)

The longitudinally mounted engine allows for ground-level access and easy daily maintenance, like checking coolant levels and hydraulic and engine oil.

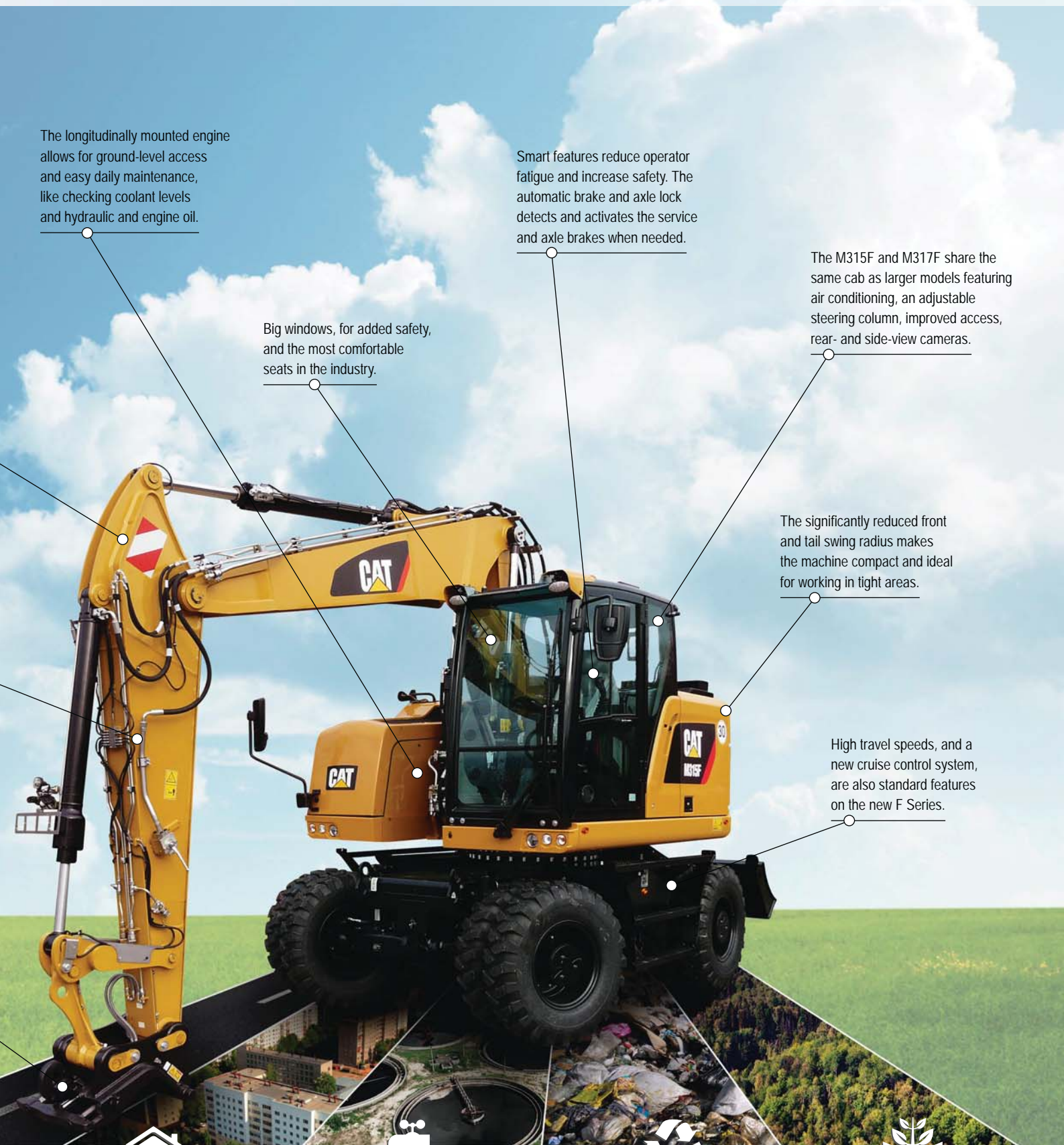
Big windows, for added safety, and the most comfortable seats in the industry.

Smart features reduce operator fatigue and increase safety. The automatic brake and axle lock detects and activates the service and axle brakes when needed.

The M315F and M317F share the same cab as larger models featuring air conditioning, an adjustable steering column, improved access, rear- and side-view cameras.

The significantly reduced front and tail swing radius makes the machine compact and ideal for working in tight areas.

High travel speeds, and a new cruise control system, are also standard features on the new F Series.



Houses and buildings



Water and sewage



Waste industry



Forestry



PERFORMANCE and *TECHNOLOGY* in a user-friendly platform



Paving range:
Weight:
Application:

AP500F Wheeled paver
2.55 - 6.5 meters
16,651 kg
urban environments



AP600F Wheeled paver
2.55 - 8.0 meters
17,335 kg
highway and street environments



AP555F Mobil-Trac™ paver
2.55 - 7.5 meters
17,290 kg
urban environments



AP655F Mobil-Trac paver
2.55 - 10 meters
19,074 kg
high production

Recently, Caterpillar introduced four pavers for its new F Series line – the AP500F, AP600F, AP555F, and AP655F. The machines feature a host of improvements compared to the previous E Series, including updated technology, better fuel efficiency and an integrated screed heating system to enhance performance and productivity.

An interview with Jon Anderson, Worldwide Sales and Marketing for Caterpillar Paving Products

WHAT ARE SOME F SERIES PAVER ADVANCEMENTS?

We concentrated on integrating technology that streamlines operator control. Touch-screen displays offer a visual reference that allows operators to make simple adjustments to material delivery and screed heating systems. High visibility push-button control panels enable single-touch activation for the augers and conveyors as well as the hopper to enhance efficiency.

HOW IS PERFORMANCE ENHANCED?

The new F Series pavers and SE-Series screeds offer many exclusive features, including the Mobil-Trac System (MTS) undercarriage on the rubber tracked AP555F and the AP655F. This system maintains contact with the surface, despite obstacles and grade deviations to minimize tow-point movement and improve mat quality. It's like having the traction of steel tracked pavers, and the speed and mobility of wheeled pavers with better maneuverability.

WHAT ABOUT FUEL EFFICIENCY?

A couple of new features that really set the standard for fuel efficiency are the screed heating and advanced eco-mode systems.

The new screed heating system can heat the screed plates (5°C to 130°C/ 41°F to 266°F) in as little as 15 minutes using an integrated generator at an engine speed of just 1,300 RPM. This helps greatly reduce fuel consumption and the generator is designed to last up to 15,000 hours. Plus, heating time is cut in half compared to many competitors.

The machines' engines meet regional emission requirements including U.S. EPA Tier 4 Final and EU Stage IV and use advanced eco-mode and automatic engine speed control for fuel optimization without losing performance. The F Series is five percent more efficient than the E Series and up to 20 percent more efficient than some competitors.

HOW DO CAT SCREEDS HELP CUSTOMERS MEET TARGETS?

They combine excellent weight balance, tamper bars and vibration to optimize density as material passes under the screed plates. And, Cat Grade Control, which can now be operated from any of the tractor or screed consoles, is factory integrated for better accuracy and productivity.

WHAT ARE IMPROVEMENTS COMPARED TO THE E SERIES?

We've done a lot. Mainly though, the screed heating system diagnostics enable uninterrupted paving. Our exclusive propel and feeder system settings transfer between both paver consoles with the touch of a single switch. That means speed, feeder operation and travel modes are automatically adjusted when moving to the opposite console. And, a single-button, automatic mix delivery system does the work of four switches.

WHAT ABOUT IMPROVEMENTS COMPARED TO THE COMPETITION?

Exclusive to the Cat F Series pavers are the integrated 70 kW generator for faster screed heating and the MTS undercarriage. Our unique airflow design keeps components and the operator cooler and doesn't interfere with grade controls. And, our fumes management system draws and directs fumes away from operators. Lastly, advanced screed heat monitoring keeps screed plates heated if a temperature sensor fails.

WHY SHOULD CUSTOMERS PURCHASE NEW F SERIES MODEL?

Customers will appreciate the fast-heating screed capability for increased daily production and fuel savings as well as the many technological enhancements that help produce quality mats more efficiently. Customers continue to look for technology that makes work easier and they have been very happy with the machines' new features like touch-pad machine controls, the LCD color display and integrated grade controls. ■

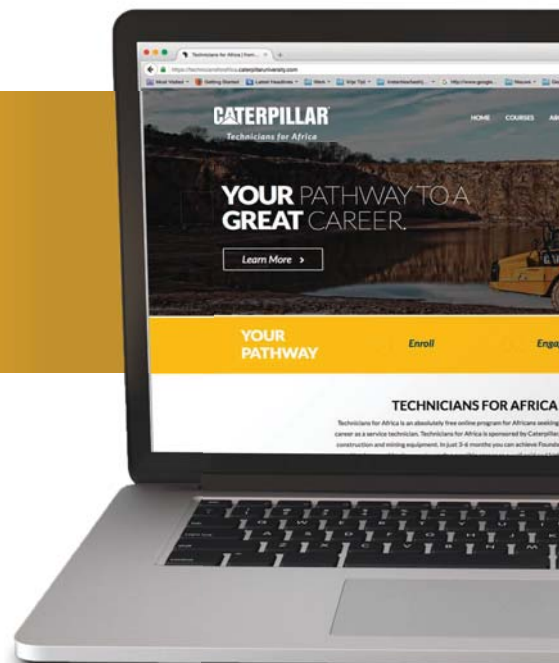
Additional details at: www.cat.com



TECHNICIANS FOR AFRICA

EXPANDING TECHNICAL TRAINING IN AFRICA

Currently, Africa is lacking people who have technical training and skills. As a result, companies are struggling to fill positions and often have to look outside their own country, or even the continent, to find qualified employees. But a new program is looking to change that.



In November 2015, and thanks to input and feedback from African leaders and non-governmental organizations, Caterpillar launched the Technicians for Africa Project. The initiative is an e-learning website where anyone can go for a broad, basic technical education – free of cost. It is based on Caterpillar’s existing, state-of-the-art e-learning solutions. “Even though there are many technical schools here that have excellent technical programs, there are very few, if any, that are affordable and accessible,” said Mehul Atree, Caterpillar Asia Pacific, CIS, Africa, Middle East (ACAM) Marketing and Operations Support.

The program is currently in its pilot phase and is available in Nigeria, Mozambique and Democratic Republic of the Congo in French, Portuguese and English. The free curriculum is taught over three levels and includes 18 courses that students can complete in just three to six months.

“The first level of learning is an introduction to Caterpillar and its history. The second and third levels teach and provide students with technical insights in areas such as hand tools and safety as well as electrical, hydraulic and powertrain systems,” explained Mehul. “And, when all three levels are completed successfully, students can print a Caterpillar foundational learning e-certificate.”

The e-certificate shows that a student has achieved a certain level of technical knowledge. “Students can then take their certificate to potential employers, including Cat dealers, which could lead to an apprenticeship and eventual employment,” added Dodi Hendra, Caterpillar Global Dealer Learning. “In fact, I started my career with Caterpillar in much the same way.”

“It’s all about educating people and giving them the skill and knowledge they need to pursue any path they want.”

Mehul Atree, Caterpillar Asia Pacific, CIS, Africa, Middle East (ACAM) Marketing and Operations Support

PROJECT SUCCESS

After just three months, the Technicians for Africa Project already has more than 1,000 users. “We’ve had quite a favorable response. With a very limited budget, we’ve been able to spread the word through social media and other media outlets,” said Mehul. “This pilot stage will last through the first quarter of 2016. Then, we will analyze its performance. We have received several requests to bring the project to other countries. If this type of success continues, we will certainly be expanding our reach.”

OVERCOMING INTERNET LIMITATIONS

As much good as this project is already doing, Internet access can be a limitation. For example, access in Nigeria reaches only about one-third of the people there. In Democratic Republic of Congo, it is even less – about five percent. “We knew Internet access would be limited going into this project. Fortunately, some students can gain Internet access through their university and we have formatted the program for mobile phones for people who can use mobile data,” said Mehul.

REINFORCING SOCIAL RESPONSIBILITY

Caterpillar has always believed in social responsibility, and this project is no exception. “We fully support giving back to the public, which is one of the reasons why this e-learning program is free. It’s all about educating people and giving them the skill and knowledge they need to pursue any path they want,” Mehul said with confidence. ■

To learn more about the Technicians for Africa Project, visit <https://techniciansforafrica.caterpillaruniversity.com>

Sponsored by David Picard, Regional Manager for AME, with Kelley Maxwell as team leader and Dodi Hendra and Mehul Atree as valuable team members.

**YOUR
PATHWAY**

**YOUR PATHWAY TO
A GREAT CAREER.**



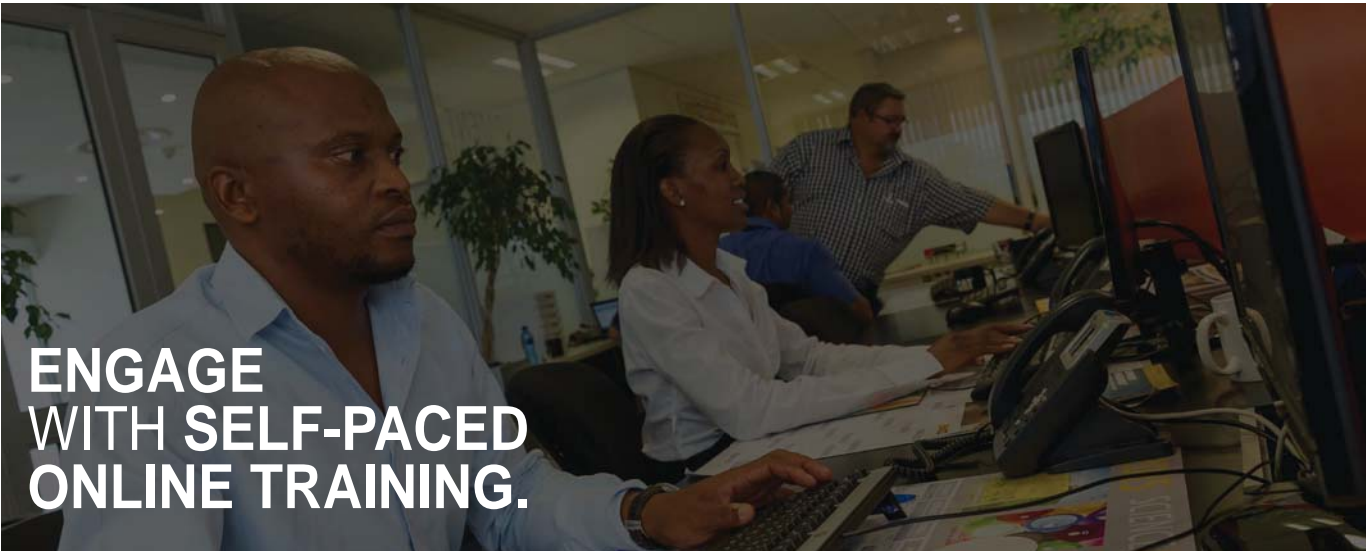
01 / Enroll

**ENROLL IN OUR
FOUNDATIONAL
PROGRAM.**



02 / Engage

**ENGAGE
WITH SELF-PACED
ONLINE TRAINING.**



03 / Certify

CERTIFY AND SUCCEED!



Customized financial and protection products that help businesses grow

WHEN CUSTOMERS PURCHASE EQUIPMENT, NOT ONLY IS IT AN IMPORTANT DECISION, IT IS ALSO AN IMPORTANT INVESTMENT

Cat Financial provides financing and extended protection options for Cat construction equipment and power systems, including marine engines.

DECADES OF FINANCE AND INDUSTRY EXPERIENCE

Cat Financial has been serving customers for more than 30 years. They know Cat equipment inside and out, as well as the industries in which they work.

For financing equipment, customers have three options, a Hire Purchase, Finance Lease or Operating Lease. Each offers a flexible structure that can be customized – regardless of a company’s size. Some benefits include lowering up-front costs and payment flexibility. Terms longer than 60 months are possible on both new and used equipment in some cases.

“We want to work with customers to provide the right solutions. If they are not successful, we are not successful,” said Amy Chen, Marketing Consultant at Cat Financial. “It’s really about building relationships. We sit down and talk about all the options to help customers complete a purchase and build their business.”

MACHINE AND POWER SYSTEM PROTECTION

The lifespan of Cat equipment goes well beyond factory warranties. Whether new, used or re-built, extended protection helps protect investments in equipment over the long term. So for customers, another benefit of Cat Financial is the ability to combine dealer services, repair and maintenance plans seamlessly.

“When we talk about protecting a customer’s investment, we want to make sure it is the total package,” added Amy. Our extended protection plans create the peace of mind that comes with knowing Caterpillar is backing them for the life of the equipment. In addition, our extended protection products help reduce downtime and keep customers working.” ■

For more information visit your local Cat authorized dealer or go to: www.catfinancial.com

“We want to make doing business with Caterpillar easy for our customers and build loyalty by being a trusted partner, whether we are working directly with customers or through a Cat dealer. Our job is to help make buying equipment quick and easy. We want to be a one-stop shop for all their financial and extended protection needs.”

Amy Chen, Marketing Consultant at Cat Financial

SOLUTIONS FOR YOUR BUSINESS

HIRE PURCHASE

Customers needing immediate equipment ownership, but who want to pay over time, can build equity and get to work quickly with this loan option. Trade-ins or down payments can be included.

Whether buying equipment, protecting an investment, managing accounts or preparing for the future, these comprehensive financing and extended protection solutions help customers be more successful.

BENEFITS

- Claim the tax benefits of ownership (including depreciation and interest expense deductions)
- New and used equipment may be financed
- Special promotional rates are offered frequently
- The lowest, total acquisition cost option for machine ownership
- Down payment options in the form of cash, trade-in or rental equity

OPTIONS

- A variety of flexible payment plans, including monthly, quarterly, semi-annual and annual
- Skip-payment plans (up to three per year) are available on monthly payment schedules
- In addition, various maintenance programs and extended protection packages are available through Cat dealers
- Length (new equipment): 12-60 months (terms greater than 60 months are considered upon request)
- Length (used equipment): 12-48 months (terms greater than 48 months are considered upon request)
- Finance rate: fixed (floating rates may be considered upon request)

OPERATING LEASE

When it comes to running your business, you want options. You want to know you are making the best investment today and for the long haul.

Whether for high-value assets or the need for specialized equipment to satisfy contracts, an Operating Lease helps owners get the most out of their equipment while freeing them from the risk of losing value.

BENEFITS

- Boosting cash flow – a fixed, residual value reduces payments
- Taking assets off the balance sheet – businesses can profit from this valuable benefit
- Reducing tax payments – customers may be able to reclaim VAT on equipment and offset payments against taxable profits
- Removes residual value risks
- Easily combined with dealer service, repair and maintenance contracts
- New and used equipment may be financed

OPTIONS

- Up to 60 months (terms greater than 60 months are considered upon request)
- Payment flexibility – generally monthly, although other options can be considered
- Lease may be considered for an extension at the end of the term
- Various maintenance programs are available through Cat dealers

FINANCE LEASE

For customers that want a rental agreement for a fixed period, with fixed payments.

After that period, the equipment can be used in exchange for a secondary rental period. At the end of the agreement, the equipment will be sold (by Caterpillar or an agent) and we will pay an agreed share of the sale proceeds.

BENEFITS

- Reduce upfront costs – for a small amount, the equipment is available immediately
- Flexible payments – tailor rental payments to match cash flow
- Spreads the impact of VAT
- Payments can usually be offset against taxable profits
- Upon sale of the equipment, a high percentage of the net sale proceeds (after deduction of applicable VAT) is refunded
- New and used equipment may be financed

OPTIONS

- Term (new equipment): up to 60 months (terms greater than 60 months are considered upon request)
- Payment flexibility: monthly, quarterly, semi-annual and annual. Seasonal, skip, accelerated and balloon payment options may be considered
- Option to retain a high percentage of the sales proceeds upon sale of equipment at the end of term
- Option to extend the term for a fixed annual payment after the primary period is completed



SPOTLIGHTS

Bringing relief to remote Indian villages

Caterpillar has a long history and association with the country of India and its people. From road building to construction and infrastructure, Cat equipment has played an important role in helping shape the country. Among these more large-scale operations are smaller projects that have an immediate and positive impact on the quality of life for the people of India.

The projects presented to you in this article have been completed in five remote areas throughout India's second largest state, Madhya Pradesh. It's an area where many villages still lack even the simplest of resources and facilities. So, to bring relief, many local people, Cat dealers and a Cat 424B worked together to change lives. ■

Watch the Cat 424B at work in the Built For It™ Trials Live: India at: <http://bit.ly/IndiaVideos1>
Follow the Built For It Trials series using: #BuiltFort



CREATING A LIFELINE

In the Bundelkhand region of Madhya Pradesh, water can be hard to come by. When the monsoons don't come, there's no real access to water. Fortunately, there are plans for several projects to improve access that include a variety of Cat machines. The 424B proactively led the way and helped dig a pond and water storage system using land donated by a Cat customer.



PROVIDING PRIVACY

At the banks of the Shipra River it is the year of the Kumbh Mela, a two-month Hindu pilgrimage attracting more than 50 million people. They bathe in the river as part of a holy ritual called the Kumbh Snan. For women, however, there is no place to change privately after entering the water. So, as part of its tour around India, the Cat 424B backhoe provided the heavy lifting needed to install changing rooms for women.



SPREADING JOY

Next stop, Sirali. Even though the literacy rate in this small district is 80 percent, children were still missing one vital element in their lives – a place to play. Cat machines were already working here to deliver better drinking water access. So to help provide physical exercise, Cat dealers, local villagers and the Cat 424B stepped in. Over two days they took on the playful task of building a playground for 200 school children.



BUILDING TOILETS

Showing its versatility, the next task for the 424B was to build toilets. Why? There are more than 200 households in Panna and not a single toilet. It was an unsanitary and unsafe situation. People would often have to venture far outside the confines of the village and risk being bitten by snakes and attacked by stray dogs or other, fiercer animals. Not only did the 424B build toilets, the powerful backhoe also helped build a sewage and sanitary system.



QUENCHING THIRST

Tigers in the Panna Tiger Reserve are on the comeback. But while their numbers are on the rise, a lack of summer rains means water can be limited. After local Cat dealers worked with reserve rangers, they agreed on a solution to help provide the big cats with crucial drinking water – create a permanent reservoir. The reliable 424B went to work in the middle of a forest to create a channel that guides water to a reservoir, ensuring the tigers have the water they need year-round.

LEVERAGE EVERY LITRE

RECOVER MORE PROFIT FROM EVERY TANK



5

ARE YOU FOCUSED ON THE 5 FACTORS THAT AFFECT FUEL EFFICIENCY?

From the operator to the jobsite setup, even small adjustments can have a large impact.

1 IDLE TIME

Excess idle time wastes fuel and erodes profitability.

Q Are you sending your profits up in smoke?

2 OPERATOR TECHNIQUE

Skilled operators can improve fuel efficiency up to 30 percent or more.

Q Is your team trained to do more work with less fuel?

3 EQUIPMENT SELECTION

The right machines are sized and equipped to work as a system and built with features that save fuel.

Q Can your fleet deliver more profit?

4 TECHNOLOGY

Telematics, productivity tools and advanced power train technologies can yield double-digit gains in fuel efficiency.

Q Are you capitalizing on innovation or getting left behind?

5 JOBSITE SET-UP

Streamlined workflow and properly managed haul roads drive higher efficiency.

Q How much more profit could you earn by optimizing your site?

cat.com/en_GB/fuel-efficiency

IMAGINE. A WHOLE NEW LEVEL OF EASY.



At Caterpillar we're obsessed with making our machines easier to operate. Technology can help, but only if the operator's comfortable using it. We're excited to show you a new feature that's incredibly easy to use. Cat® GRADE with Assist, available on the 323F excavator, makes grading so easy an operator can grade passes with one lever—and get to grade about twice as fast as using traditional methods. It's a lot more accurate, too.

Learn more at www.cat.com/gradewithassist-gb

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