

CAT MAGAZINE

PRODUCT MANAGER BOB DE LANGE

THE ENTREPRENEURIAL VIEW

DEMOLITION MADE SIMPLER

MAKING ROOM FOR THE RIVER



A NEW GENERATION OF PERFORMANCE



INTRODUCING THE NEW 374D L AND 390D L

In addition to combating harsh and unforgiving conditions, you depend on your machines to be increasingly efficient and productive. Answering that challenge, Caterpillar has engineered two brand new excavators - the Cat® 374D L and the Cat® 390D L.

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The new Cat 374D L and 390D L, delivering a new generation of performance. Designed, developed and built to help make short work of even the most formidable tasks.

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MAKING ROOM FOR THE RIVER
Cat machines create new flood defences



RENEWING FAITH IN THE FUTURE
Biomass for power generation in Liberia



THE ENTREPRENEURIAL VIEW
Profile: product manager Bob de Lange



DEMOLITION MADE SIMPLER
Cat machines add power and safety

Dear reader,

In this issue Bob de Lange, one of our six regional product managers, describes an essential part of his job as “collecting the voice of the customer”. So what are you telling us, and how are we responding?



With ongoing fuel price rises and concern about our environment, it’s no surprise that customers are looking for more efficient ways to work.

Cat dealers are ready with new equipment combining optimum power and economy, and built making more efficient use of valuable raw materials. To this they add practical support, such as the connected worksite, to help you achieve higher productivity.

The launch of our Stage IIIB compliant machines is gathering pace, with new K Series wheel loaders and E Series excavators making their European debut.

Other developments in areas such as product support, and the use of biomass for power generation, also highlight routes to a more sustainable future.

As Bob states, only by keeping our focus firmly on you can we be sure we continue to deliver the products and support that will help you stay ahead in a demanding business environment.

In this issue you’ll see some of the ways in which are doing exactly that. Enjoy your read.

Paolo Fellin,
Vice president Caterpillar

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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 on CatMagazine@cat.com

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CAT MACHINES IN ACTION IN THE NETHERLANDS

MAKING ROOM FOR THE RIVER



North of the Dutch city of Maastricht, the Maas River marks the border between the Netherlands and Belgium. The Grensmaas project is currently underway, and covers a 24-mile stretch of the riverbank. Flood protection, nature development and gravel extraction: these are the three main objectives of the Grensmaas project. And of course Cat machines are there, playing a central role.

From close to the office of the Grensmaas Consortium, the group of companies executing the flood protection project, Hein Ruiters, regional manager for the Dutch contractor Van Oord, points to the village of Itteren, visible in the distance. "Back in 1993 for example," he says, "and then again in 1995 and later years, the people living there just stood and watched as the river rose towards their houses. In a mere 48 hours, the water level rose by over 8 feet, and people had as much as 3 feet or more of water inside their homes. Each time, the residents of the village, together with thousands of people living in the low-lying areas near

the river, were forced to evacuate. That's why we're here today; to make sure this never happens again."

It is an ambitious goal, but it's only part of the story. The second, related purpose of the project is to create almost 2500 acres of new nature areas along the entire stretch of the Dutch banks of the Grensmaas River, from Borgharen, just north of Maastricht, up to the town of Roosteren, 26 miles downstream. "It all makes perfect sense," says Hein. "After all, we're creating more room for the river by providing huge run-off areas that will, in fact, become large stretches of open water – a natural haven for birds and other wildlife. What better solution could there be than to expand on this by creating a nature reserve that may be enjoyed by the entire population, along with areas where livestock can graze?"

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Operations on-site involve the removal and relocation of a 3-metre layer of topsoil.



HEIN RUITER

Regional manager with contractor Van Oord: "In 1995 houses were flooded to a depth of a metre."



EVERT HOF (RIGHT)

General foreman at Boskalis.

It sounds like a costly endeavor, and it is; this is the kind of project that would normally require major government subsidies. However, this is not the case here. Thanks to the geology of the area, the project is actually self-financing. During the last ice age, enormous quantities of gravel were displaced from the Vosges and Ardennes regions, and ultimately deposited at an average depth of around 26 feet at what is currently the site of the Grensmaas project. Extracting 53 million tons of sand and gravel (quarry-run gravel) is an integral part of the execution of the Grensmaas project. The sale of these materials for applications in construction and civil engineering projects is the ideal way to help defray the total costs of the Grensmaas project.

COLLABORATION IS THE KEY

It goes without saying that in a large-scale project like this one, close collaboration is of the utmost importance. In many ways, the execution of the Grensmaas project is unique. It is the most extensive public-private partnership ever undertaken in the Netherlands. The Grensmaas Consortium is handling the execution of the entire project, from engineering and permit applications to completion. The government is monitoring compliance with the agreements from 2005. The government institutions involved are the Province of Limburg and the Ministry of Agriculture, Nature Management and Fisheries and the Ministry of Transport, Public Works and Water Management. On behalf of these government institutions, the Ministry of Waterways and Public Works is monitoring the project to ensure that the Consortium adheres to the terms of the contractual agreements.

The Grensmaas Consortium consists of a group of gravel companies, general contractors, and the Natuurmonumenten, the Netherlands' largest nature conservancy organization. Since the very early stages of planning in the mid-1990s, the local population

has been consulted closely, on an ongoing basis, to make sure they agree with the work planned. Local authorities, landowners, utility companies and many other local organizations have also been closely involved in negotiations that lasted from 1995 to the start of work in 2008. A staggering total of 1800 separate permits have had to be obtained.

The general contractors are Van den Biggelaar Aannemingsbedrijf B.V., Van Oord Nederland B.V. and Boskalis B.V. Together, they make up the Regenboog ('rainbow') syndicate, and all three of them have elected to use Cat machines, supplied and maintained by Dutch Cat dealer Pon Equipment. The dealer is the leading equipment supplier for the project, and supplies new,

"I get more done in the time available than was possible before."

Farrid Arramach, Cat 385 operator

used and leased machines, as well as tools, engines, spare parts and service. At present, there are some 40 Cat machines at work on the project, including D6 bulldozers, 345C, 365C and 385C LRE hydraulic excavators and 18 Cat 740 articulated dump trucks.

The total project consists of eleven separate sites located along the Maas River. Three of these sites are currently under construction, two of which are the southern locations of Borgharen and Itteren. These locations are connected by a 1.5-mile long road designated for construction traffic. At both sites, the initial activities involved building a bridge, laying a road for construction traffic and building a partial detour for the existing public road. These activities were necessary to provide the infrastructure required



for the transport of materials. At present, the 100 or so employees currently working there are removing a 10-foot deep layer of topsoil, followed by excavation of the underlying quarry-run gravel (type of gravel).

“Each week we remove a total of about 3.9 million ft³ of topsoil and quarry-run gravel,” according to Evert Hof, general foreman at Boskalis. The topsoil is transported to areas that have already been excavated, and the gravel-sand mixture is brought to a 220,000-ton stockpile at the so-called “temporary depot” at the 198-acre site in Itteren. From this temporary depot, the processing facilities are fed by conveyor belt. Electrically driven, the processing plants separate, break, if necessary, and grade the quarry-run gravel into gravel and industrial sand. All of this takes place in a temporary harbor measuring 820 x 1640 feet. After the right grade of product is obtained, it is loaded on barges and transported further via the nearby Juliana Canal.

UNIQUE PROBLEMS, ORIGINAL SOLUTIONS

The harbor is not the only unique feature of the work being done at Borgharen and Itteren. Since the Dutch/Belgian border is defined by the Maas River here, political considerations have resulted in the use of two specially configured Cat 385C LRE hydraulic excavators, two of which are equipped with GPS systems.

Many years ago, both countries agreed that the border between them would be formed at the river’s deepest point, some 26 feet below the water’s surface. It is therefore imperative to ensure that dredging or excavation along the river never exceeds this depth, since doing so would mean shifting the border between the two countries – an inconceivable concept. In light of this, what would be the best way to excavate gravel to the required depth (and no deeper), with maximum speed and efficiency?

The answer came in the form of two Cat 385C LREs, specially built for the project by the Dutch Cat Dealer Pon Equipment, working in co-operation with Cat Original Equipment Manufacturer (OEM) solutions. These machines have been modified, with a 70-foot stick and boom and fitted with a purpose-designed 194ft³ bucket. The GPS system installed on two of the machines ensures the accuracy of boom/stick placement needed to guarantee that the excavation under water will not exceed the maximum depth. Since the total machine weight is 103 tons, working in close proximity to the river bank means that machine placement has to be accurate in order to ensure stability during the work.

According to operator Farrid Arramach, who has been working with the 385C LREs since August of 2010, the machine’s 20 x 20-foot ground pattern really helps here. The accuracy and sensitivity of the electronically controlled dual joysticks – again specially developed by Pon Equipment just for this operation – are also key, in his opinion. “All in all,” he adds, “it’s a very good machine to work with. There’s more power for excavation at depth, and since the machine and I both work, on average, 11-hour days, five days a week, the fact that it’s a really comfortable machine to work with is also a huge benefit. This basically means I can get more done in the allotted time than was possible before the 385C LRE was available, and I can feel more secure doing it.”

A FUTURE FREE FROM WORRY

So what will be the end result of all of these efforts by the time the project is completed in 2023? “Well,” says Hein Ruiter, “to start with, you won’t be able to see that we’ve ever been here. The entire area will be restored to look like a completely natural landscape; this is an inherent requirement for the project. What you’ll see will be a combination of open water, a natural river environment, and associated pasturelands – an



D6 track-type tractors at work, part of a 40-strong fleet of Cat machines on-site.

More ►



Find out more on the Cat 385C MH on:
www.uk.cat.com/385CMH



The PON modified Cat 385C MH; a unique combination of operator security and high work rate.

open area that is accessible for people to come to and enjoy for many generations. Plus, of course, there's the real benefit. In an area with a long history of flooding, that threat will become history, and as a result, hundreds of thousands of Dutch citizens will be able to live their lives free from that particular worry."

PON MODIFIED CAT 385C MH - EFFICIENCY MADE TO ORDER

For the Dutch Cat dealer Pon Equipment, working hand-in-hand with customers to ensure they deliver exactly the right Cat machine is second nature. However, when the Grensmaas Consortium contacted them in December 2009, it was evident that an exceptional solution – even by Pon Equipment standards – was required in order to meet an exceptional demand.

Bas van Velsen, Pon excavators product specialist, continues the story: "The contractors came to us with very specific – and stringent – requirements in terms of productivity, hourly fuel consumption, digging depth, lift height and material moving distances. Of course, our first step was to look at the Cat portfolio to find a machine that met these requirements. In this case, we couldn't find a single machine that met all of these demands. The Cat 385C MH came the closest, and we knew that with its 20 x 20 foot footprint and particular boom articulation, we should be able to equip it with a specially designed boom, stick, corresponding hydraulics and bucket to allow it to do the job."

Together with Caterpillar's OEM division, we worked on a new design. The final design (which includes a completely new boom and stick) uses 96% Cat parts which are key to ensure a rapid, reliable supply of replacement parts when necessary (though so far there has been no call for them).

"The boom and stick," says Bas, "were fabricated to our specifications by a local supplier and we engineered all of the modifications with larger bore hydraulic

cylinders as part of the package. We've met all the relevant ISO requirements, and we've even allowed for an alternative lift cylinder placement in order to provide the option of two different working envelopes – so the machine's even more versatile now in its range of applications. We also had a specially designed 194ft³ bucket built to meet the productivity requirement.

"We actually completed the whole job in about eight months," he adds. "It's a fully Pon-engineered design using almost 100 percent Cat parts and we're very proud of it. We've already had interest from other potential customers. ■"

PONCAT TYPE 385C LRE TECHNICAL SPECIFICATIONS

Weight: 103,000 Kg

Reach: 21.5m with the specified bucket

Bucket: HH-6-180-230HK, volume 5588 litres

Depth (depending on pin position of the lift cylinders): 12.8m at the original PT2 pin position, 9.4m at additional PT2 position.

Max lifting characteristics:

11.5 tonnes @ 19.5m on the stick nose and limited by stability for both pin positions (measured according to ISO 10567)

Height of cab riser: 3.8m ground level to cab floor

Power: 390kW @ 1800 rpm

U/C type: Square Lower with 900mm double grouser shoes

MAINTENANCE TIPS

GROUND ENGAGEMENT TOOLS

Caterpillar Inc. is a unique equipment manufacturer in that we design, manufacture and sell wear protection products and Ground Engaging Tools (GET) for our machine models and buckets. In fact, we produce the widest selection of premium quality GET in the marketplace today.

BUCKET WEAR PROTECTION PRODUCTS AND GET MANAGEMENT ARE IMPORTANT:

- Well-managed wear package/GET components not only protect your buckets from premature wear, they also improve your machine's productivity and performance, so you can move more material every hour.
- The right GET, properly managed, can also extend machine and component life. That's because the work tool will penetrate tough materials easier, reducing shock loads and other stresses that get transmitted back into the machine's structures and major components.
- By managing your GET, you can reduce fuel consumption, which drives down operating costs and can extend engine life.
- A comprehensive GET management program can reduce the risk of unscheduled downtime. That means more time on the job, working productively and profitably.
- And finally, GET costs can really add up over the life of a machine. Depending on your application, your lifetime investment in GET may actually exceed the original purchase price of your machine.

The following five steps will help prevent extra repair cost with appropriate maintenance in time.

1. DAILY VISUAL INSPECTION

Inspection on cracks (for example: pivot points, stops) and on hydraulics (for example: hoses, hose connections, cylinders and couplings).

2. DAILY INSPECTION BY HAND

Inspection on locking (for example: machine pins, bucket tips) and on bolts (for example: brackets, bolt on cutting edge [BOCE]).

3. DAILY OR SMU

Maintenance (for example: grease).

4. WEEKLY

Clean the complete tool and repeat 1, 2 and 3; Inspect for play (for example: pivot points, bearings); Inspect for wear compared with new parts or thickness (for example: BOCE, edges, tips, wear parts).

5. IN GENERAL

Become familiar with the Operating and Maintenance Manual (OMM). And be committed to maintenance during your daily work.





WE TALK TO CAT MEDIUM WHEEL
LOADERS REGIONAL PRODUCT
MANAGER BOB DE LANGE

THE ENTREPRENEURIAL VIEW

Bob de Lange was appointed to the position of Medium Wheel Loaders regional product manager in September last year. And in fact all six regional product manager positions in Caterpillar's Europe, Africa and Middle East (EAME) region were only created two-and-a-half years ago. So why was the position created, what does it involve, and how does it provide benefits for Cat customers?

Bob smiles at the question. "I've heard it said that that if everything's going as it should, there shouldn't actually be a job for me to do at all," he says. "But in reality there's more to it than simply trouble-shooting; much more. In practice the simplest definition of the job is that, as regional product manager, I'm responsible for co-ordinating all the activities in the region connected with our medium wheel loader range. That means the 950, 962, 966, 972 and 980 wheel loaders. And by 'all the activities' I mean design, development, cost, quality, production, marketing, sales – everything from A to Z. The various departments within the company – purchasing, design, production, and so on – quite rightly focus intensely on their own areas of responsibility. I'm the one central person within this complex matrix of individual organizations who focuses on the whole

business as it applies to medium wheel loaders, from start to finish. It's my job to take the entrepreneurial view."

To see why the position was created, states Bob, you have to look back to what happened before. "Before we had regional product managers, we had worldwide product managers – which on the face of it made sense, since we are, after all, a company that operates globally. But you can imagine how difficult it was for

"From global to regional"

a single person to do an effective job on that scale. To take just one example, if you look at my area, medium wheel loaders, on the manufacturing side alone there are six production plants globally. Liaising effectively with all of them on an ongoing basis is difficult – even without adding in all the other aspects of the role."

Consequently, in the last major company reorganization, this was changed so that product managers could work on a regional basis rather than a global one. The aim was to focus more closely on our customers' needs than was possible before, and to promote



greater accountability for the business. So now there are regional managers for all EAME core businesses.

"In a big company like Caterpillar," says Bob, "we must always look outwards rather than inwards, and it's a crucial part of my role to make sure that always happens. I'm here to collect the voice of the customer with respect to our medium wheel loaders, and to make sure that this voice is heard and properly listened to throughout the company."


As a result, though Bob is based in Geneva he spends a majority of his time travelling. Most of his time on the road is divided between the Cat manufacturing facility at Gosselies, Belgium – where the majority of the medium wheel loaders destined

"I'm here to collect the voice of the customer."

for customers in Europe are manufactured – and visits to customers and Cat dealers in the EAME region.

"I attend activities ranging from customer events to competitive testing of the Cat machines alongside competitors' machines. I get involved in dealer sales training, exhibitions and all kinds of customer events. It can be a demanding schedule," he adds, "but I have to make sure I do whatever it takes to be certain that we fully understand our customers' needs and concerns – and continue to meet them as conditions out there in the marketplace change and develop."

More ▶



Bob de Lange is a one-company man, having spent his whole career to date working with Caterpillar.

"I'm Belgian, born and raised in Antwerp," he says. "I went through high school there, then went on to do a master's degree in engineering – in Belgium and in the USA. Then I studied for an MBA in France. My final project for that took me to Houston, Texas, but an opportunity to interview for a job with Caterpillar brought me back early. I was offered the job and I've been here ever since."

HAS HE NEVER FELT A DESIRE TO MOVE ON TO A DIFFERENT ORGANIZATION?

"No, never," he answers emphatically. "I'm still enjoying it here with Caterpillar. It offers intense variety in terms of both experience and the places where I've lived and worked. I've had more opportunities than my friends from high school who have moved from employer to employer, even though I've only worked with the one company.

"It's a well organized company," he adds. "Caterpillar motivate and develop their people. They keep a close eye on their progress and tend to take the longer term view when it comes to career planning. And they

"I've had 17 years of training for this job."

make sure that the expertise you gain along the way is put to good use. In my case that includes experience working both with wheel loaders and in close contact roles with Cat dealers in London, Copenhagen, Munich and Rome, and customers in their areas. And of course I've spent time in Caterpillar's global headquarters in the USA. In fact, you could say that I've had seventeen years of training for the role I've got now."

A KEEN EYE ON TOMORROW

What about the future? What changes does Bob de Lange foresee in terms of machine development, market development, and the direction in which his own role of regional product manager will move?

"In terms of Cat medium wheel loaders – and probably a lot of other Cat equipment, too – the future is becoming clear, at least for the medium term. You only have to look at the launch of our new K Series machines to see the directions in which Cat, as an industry leader, is moving. The traditional Cat values –durability, quality, outstanding performance in tough conditions – are all there in full measure. But more and more new attributes are being added to the mix; notably even more versatility, greater fuel efficiency, even greater ease of operation, added sustainability, and the integration of new technologies into our machines.


"Let me give you a couple of examples. When it comes to sustainable manufacturing we're making good progress. Already we use around 25 percent of recycled material in building our new machines, and we reckon that we are able to recycle no less than 97 percent of all the materials used in building the new 966K. That's a big step in the right direction. When we turn to the 980K, it incorporates load sensing hydraulics and a new type of torque converter, both of which reduce fuel use and increase work rates. These are the kinds of development that are making the K Series currently the best wheel loader on the market. And there are other, related developments that will help keep Cat machines up there in the forefront of the industry. Recently, for instance, we showed a new continuously variable transmission. And on the dealer front, the connected worksite will become more and more significant in helping customers monitor and maintain machine health. And soon it will include monitoring of productivity as well – so dealers will be able to help customers ensure they have the right machines working in the right place."

"All these things point to the direction in which the industry is heading; in short, increasing machine efficiency, lower fuel use, greater sustainability, minimum operating costs.

"As far as my own role is concerned," he adds "I don't see it changing radically. Of course we'll see changes in emphasis as our customers' requirements change and grow. After all, that's what the position was created to achieve. For me - and I'm sure this goes for my five regional product manager colleagues as well – the fact that I can make sure customers' voices are heard and their needs met makes this the best job I've had so far." ■



Learn more about the Cat Medium Wheel Loader product line on:
www.uk.cat.com/MWL



**HOW THE NEW 966K, 972K AND 980K
WHEEL LOADERS ARE CHANGING THE RULES**

WORK RATE UP, FUEL USE DOWN

The new 966K, 972K and 980K wheel Loaders comply with EU Stage IIIB emissions regulations and deliver even higher productivity and fuel efficiency than previous models. They also add a new operator station, new electro-hydraulic steering with either joystick or steering wheel control, Performance Series buckets and a more efficient drive train. In addition, the all-new 980K features load sensing hydraulics.

THE POWER TO GET MORE DONE

The 966K & 972K are powered by a new Cat® C9.3 ACERT™ engine, the 980K by a Cat® C13 ACERT™ engine. Designed to optimize power density, both engines use a combination of technologies to reduce regulated emissions while ensuring high performance and excellent fuel efficiency. The rugged Cat Clean Emissions Module is securely mounted on its own platform above the engine and contains a Diesel Oxidation Catalyst, Diesel Particulate Filter and Cat Regeneration System. Regeneration can be set to take place automatically, or can be initiated manually by the operator.

HIGH EFFICIENCY DRIVE TRAIN

Drive train components have been designed as a system and integrated to optimize digging power, acceleration, performance and fuel efficiency. The 972K has a new torque converter that increases rimpull by 10 percent in all gears to boost performance, especially on grades. All three loaders have new transmission shift logic providing faster and smoother shifts and allowing the machine to downshift automatically into first gear.

GREATER COMFORT, EASIER OPERATION

New steps & angled ladder provide easy cab access. A wider door opening, well-placed grab bars and a new front-hinged door offer easy entry and exit. Left- and right-hand sliding windows make it easier to communicate with people on the ground.

A streamlined four-post ROPS design and a new operator position moved slightly forward provide enhanced visibility to the front and sides, while a standard rear-view camera with large colour monitor enhances rear visibility.

All three new K Series models come with a new low-effort electro-hydraulic joystick steering system with an exclusive force-feedback feature that automatically increases joystick effort as ground speed increases. This improves steering control and comfort, especially at higher speeds.

PERFORMANCE SERIES BUCKETS AND VERSATILE WORK TOOLS

Cat Performance Series Buckets are standard on all three models. These buckets deliver faster fill times and better material retention, reducing cycle time and improving productivity and fuel efficiency.

Many other work tools, including specialty buckets, pallet forks, and logging forks, rakes, material handling arms are also available.

A GLIMPSE INTO TOMORROW

The new K Series 966, 972 and 980 models mark the starting point of a large range of Caterpillar new models scheduled for introduction over the coming year – all of them representing a major step forward in durability, quality, performance and versatility. ■



THE POWER TO GET MORE DONE

FOUR NEW CAT® E SERIES HYDRAULIC EXCAVATORS DELIVER FASTER CYCLE TIMES WHILE SAVING FUEL

The new Cat® 324E, 329E, 336E and 349E hydraulic excavators feature more powerful engines for higher productivity while meeting Stage IIIB emissions standards. The Cat C9.3 ACERT engine on the 336E model for instance delivers up to 12 percent more power while improving fuel efficiency by around two percent. Greater hydraulic pressure in heavy lift mode boosts lift capacity, contributing to higher work rates when lifting heavy loads.

BETTER FUEL EFFICIENCY COMES AS STANDARD

Fuel saving is a hallmark of the new E Series models. An electric regeneration valve captures and recycles energy when the boom is lowered. A new engine shutdown setting enables owners and operators to specify how long the machine should idle before shutting down the engine. Additionally, the operator can reduce engine speed to idle with the touch of a button to help conserve fuel.

To maintain high productivity, the engine exhaust after-treatment regeneration system ensures the machine works as normal with no operator intervention needed. In automatic mode, the machine starts the regeneration process once the filtering system reaches a preset level and conditions are optimal. Manual mode enables the operator to override the automatic mode.

CAT NEXT GENERATION BUCKETS

The new models can be equipped with one of the Cat Next Generation buckets for optimum productivity. The new buckets feature enhanced geometry that promotes efficient filling for faster digging and reduced cycle times. Greater wear coverage enhances durability, and a new lift eye design makes shackle matching easy.

GREATER CONTROL FOR LOWER COSTS

The optional Cat Grade Control Depth and Slope system further improves productivity and lowers costs. The system combines traditional machine control and guidance with standard factory-installed and calibrated components. It uses internal front linkage sensors to give operators real time bucket tip position information, minimizing the need for

traditional grade checking, aiding job site safety, and helping the operator complete jobs in fewer cycles.

SAFETY AND EFFICIENCY COMBINED

Cab safety is enhanced by a Roll-Over Protective Structure. The cabs are also sealed and sound insulated, reducing operator fatigue and allowing more productive working. A new enhanced resolution monitor in the cab is 40 percent larger. Featuring quick-access buttons that complement a new screen layout, it can display up to two camera images. A rear view camera is standard.

For enhanced comfort, joystick console heights are adjustable. An optional air-cooled seat improves operator comfort and a new air conditioner compressor enhances cab cooling.

NEW LAYOUTS FOR EASIER SERVICE

For simpler maintenance, the E Series hydraulic excavators use a side-by-side cooling package, readily accessible through large, sturdy doors. Optional remote engine oil and hydraulic oil drains facilitate environmentally friendly service, and the redesigned air conditioning system is easy to maintain. ■



“CYLINDER EXPRESS OFFERS US A UNIQUE BLEND OF SPEED AND QUALITY WE CAN RELY ON”

“IT’S A MATTER OF TRUST”

Since August 2010 customers of UK and Ireland Cat dealer Finning have been taking advantage of a new, unique service – and reaping significant rewards in time and money saved. Cylinder Express is the dealer’s total hydraulic cylinder repair service, set up to repair hydraulic cylinders from every plant and equipment manufacturer – not just Caterpillar. So why was Cylinder Express set up, what does it offer, and exactly how do customers benefit?

The ‘why’ is simple, claims Finning UK hydraulics manager Phil Lewis. “Customers want us to do more for them, and hydraulics are such a major component in plant and equipment that their efficient, reliable functioning is a big concern. But, with a whole raft of local and regional hydraulic repair specialists offering services, we weren’t necessarily seen as the expert to turn to – even though the quality of our work is the highest you’ll find. So we took a look at what we were offering, how we could add to that, and how we could best meet customers’ growing expectations. Cylinder Express is the result, and it’s proving to be a valued addition to our portfolio.”

Cylinder Express repairs range from reseal with light honing and testing, through light and oversized honing, to re-tube and re-rod rigorously following Cat standards, process and material specifications, industry standard re-rod, and bore welding of cylinder eyes.

“We use higher grade stock than any other UK hydraulics repair shop,” states Phil, “so customers can be sure of a longer lasting repair. And we follow Cat processes to the letter, meaning that the standard of our work is higher. Post-repair testing is more



thorough, too, including a particle count, so customers can be sure the work we've done is up to standard."

The service, operated from Finning's HQ in Cannock, Staffordshire – situated at the very heart of the UK's transport infrastructure – means that the UK Cat dealer now offers customers a complete range of hydraulics options: local, branch-based repair or remanufactured parts; service exchange of parts, for where minimum equipment downtime is vital; and Cylinder Express, providing a 2-4 day turnaround, as well as a considerable price benefit.

Savings to customers can be considerable, says Ashley Stanton ('Ash' to his colleagues) one of the team of Cylinder Express engineers: "A cylinder that could cost £4000 (€4600) to replace can now be repaired

"We use higher grade stock than any other UK hydraulics repair shop."

to the highest standard for a fraction of the costs. And what we do here is an environmentally friendly process too. It results in less new metal needing to be used, as well as saving customers money and time."

YOU CAN'T BEAT THE EXPERIENCE

According to team leader Dave Skitt: "If demand for the service keeps growing at the current rate, soon the space we have in the workshop may not be enough. We're recruiting new engineers, and we'd like to expand our work into the mining hydraulics field, which means we'll need more and bigger machine tools as well."



Dave 'The Lathe' Davies, lured to Finning in June 2010 from an engineering position elsewhere working on non-Cat earthmoving equipment, agrees. "Right now we are working to capacity. And we're versatile, flexible, and capable of undertaking other types of work, so – given more resources and people – the future looks good."

The other longstanding team member, engineer John Tierney, previously spent 20 years as a hydraulics engineer in the local mining industry, so he knows the challenges and how to meet them. "Everything is done strictly to Cat standards," he points out, "which means that when we do a job and it goes out to a customer, it simply isn't coming back again. We're meticulous about our work, about cleanliness, about everything we do, and it shows in the results we've achieved. Quite simply, our customers have learned they can rely on us. We're very proud of that."

More ▶

Services offered include Cat quality Re-Rod.



DAVE 'THE LATHE' DAVIES at work in the Finning UK workshop.



ENGINEER JOHN TIERNEY has 20 years' experience as a hydraulics engineer in the mining industry.



Matt Harper (right) talks with Finning UK hydraulics manager Phil Lewis (left) at the Quattro Group's rail plant depot.



THE CUSTOMER VIEW



MATT HARPER,
Quattro Group foreman fitter.

CARILLION PLANT SERVICES

At the Bardon Hill granite quarry in Leicestershire, UK, contract rental company Carillion Plant operates six Cat 777 off-highway trucks and a 992 wheel loader. Frank Rushton, Carillion plant manager on the site is clear about why he uses the Cylinder Express service: "We move around 80,000 tonnes of granite a week at the site, and that puts a certain amount of strain on our Cat machines. The 992 has about 20,000 hours on the clock and the off-highway trucks have over 18,000 hours, so we need meticulous repair and maintenance to keep productivity high. Routine maintenance is done onsite, major repairs are done in conjunction with Finning, and Cylinder Express is an integral part of what they do for us.



FRANK RUSHTON,
Carillion plant manager
at Bardon Hill.

"For example, recently a repair was needed to a cylinder. It was taken to Finning at Cannock for Cylinder Express to deal with on a Tuesday and it was ready by the Thursday. A new cylinder would have cost us over £3000 (€3450), but the Cylinder Express repair cost only a fraction of that. Before Cylinder Express was available, we used to go to a local hydraulics repair shop, but with the Cat dealer's service you know you're going to get the quality. They keep you informed, reaction times are good, and Cylinder Express is very cost-effective compared with the alternatives.

"Of course, there are a lot of people out there who can do the hydraulic repair work, but Cylinder Express offers us a unique blend of speed and quality we can rely on. It's a matter of trust."

THE QUATTRO GROUP

The Quattro Group is the UK's second largest rail plant provider. At any one time the company has over 300 pieces of equipment out on track laying, renewal and associated railway work.

"It's mostly night work, done when trains aren't running," says Quattro foreman fitter Matt Harper, "so we need reliability, plus fast turnaround for service and repairs. Because of the special attachments we use, the hydraulics are worked hard. And even though our railroad vehicles aren't Cat machines, that's exactly what Cylinder Express gives us."

"We first went to Finning for adaptations to some newly acquired non-Cat railroad vehicles, and we've been going back since then. For us, Cylinder Express plays a vital role. It means that we can have the complete job done all under one roof, by an organization we trust implicitly." ■



"For us Cylinder Express plays a vital role."





DEMOLITION MADE SIMPLER

When you're working in tough environments, power and safety have to get top priority. For Belgian contractor Aclagro, only Cat D and DL hydraulic excavators measure up.

Belgian contractor Aclagro, based in Ghent, is no stranger to the demolition business. Founded back in 1970, for 15 years the company's activities were mainly focused on demolition works. But over the following years, as the company grew, their range of activities expanded to encompass, among other operations, railway and road construction, soil sanitization, groundwater purification, and recycling and waste handling. The rationale behind the company's increasing diversification has been that it allows customers to go 'one-stop shopping', taking advantage of a single source for a range of related activities.

It's a strategy that has paid off handsomely, with the company attracting customers of the Belgian economy – national, state and private. As a result the company now employs some 320 people and operates a vehicle fleet that includes 75 excavators, as well as wheel loaders, 25 trucks and 150 vans.

Thanks to this consistent growth – substantially fuelled by regular increases in demand throughout Belgium for Aclagro's demolition expertise – in 2008 the decision was taken to establish a separate division for demolition work. The division now employs 40 people and undertakes between 30 and 40 jobs a year, large

and small, throughout Belgium – and more recently in northern France as well. And since 2010 Cat hydraulic excavators have been playing a leading part in boosting the division's capabilities and productivity. Currently a 330DL, 345DL and 336D are in use on various Aclagro jobsites, with another two 336D excavators on order.

TOUGH WORK DEMANDS TOUGH MACHINES

Earlier this year Cat Magazine met Aclagro materials manager Jurgen Van Moldergem in the Belgian city of Kortrijk, where the company was at work on a demolition project for the Belgian Post at the city's central station. He explained Aclagro's decision to begin replacing the company's fleet of non-Cat hydraulic excavators with new Cat machines.

"The work we do is difficult," he says, indicating the activity going on around him. "For instance, on this site we are stripping out an old building and then demolishing it, along with an associated metal shed. Then we'll prepare the ground for the construction of a new building. Space is limited, so we have just 2 machines on site to do the job, and the whole project has to be completed in just one month. That means we need to be able to use machines that can do the work without flinching, machines that are tough, reliable and built specifically to handle demolition work. Our non-Cat excavators were proving less than ideal; they didn't have enough power to do heavy work as efficiently as we wanted. So we began to look around for alternatives."



The search took them to Belgian Cat dealer Bergerat Monnoyeur. The dealer was quickly able to demonstrate that the Cat hydraulic excavator range, tailor-made for heavy demolition applications – including features such as pressurised cabs with special filtration for working on contaminated sites – offered all the power, reliability and versatility required, for even the toughest job.

“It quickly became clear,” says Jurgen, “that the Cat machines offered us more. They are built more strongly, and because of the extra power we get more work done per hour, which means we save time and money compared with our previous machines. Their smart boom technology is also an advantage, especially when the machines are involved in specialised work such as hammering. And of course,” he adds, “we also

had an incident with one of our Cat hydraulic excavators. Thanks to the reinforced cabin the operator did not suffer any injury whatsoever.”

So, in view of the Cat machines’ performance record to date, what is the likelihood that Aclagro will be replacing more of their old fleet with Cat models over the coming years? Jurgen Van Moldegem smiles at the suggestion. “They perform well up to expectations,” he says. “They’re backed by comprehensive support from our local Cat dealer, and they offer the safety levels our operators deserve. So what do you think?” ■



“Because of the extra power we get more work done per hour.”

benefit from the dealer’s extended warranty and Customer Support Agreement, which means that we free us to concentrate on the job in hand while Bergerat Monnoyeur take care of maintenance and repair issues.”

SAFETY COMES FIRST

Aclagro work planning chief and ex-operator Christophe Gevaert, also on site, steps in here with his own observations: “With the Cat machines there’s no hydraulic pressure problem when using, for example, cutting tools. Our other excavators don’t have enough power to handle that kind of tool in an optimum way. Our operators like them too. In the beginning they had a few problems caused by unfamiliarity with controls and settings. But all these problems were quickly solved with the help of Bergerat Monnoyeur staff, and now operators are enthusiastic about working with the Cat machines.”

“But the greatest benefit,” insists Christophe, “has to be their inherent safety. A month ago we

CAT HYBRID POWER SYSTEMS

RENEWABLE POWER FOR TOMORROW'S TELECOMS



Featured earlier this year on the Caterpillar stand at the GSM Association's World Congress in Barcelona, Spain, Cat hybrid power systems look set to offer the global mobile telecoms industry a more sustainable, cost-effective and reliable solution to the problem of how to power off-grid mobile telecoms base stations. Here we take a look at what's on offer and how Cat technology is helping shape the future of mobile communications.

With thousands of generator sets reliably powering telecommunications base stations globally, Caterpillar is no beginner when it comes to understanding and meeting the demands of the industry. So why the change in direction at this particular time?

"It's more a change in emphasis to meet evolving customer requirements, mainly in emerging markets," says Cat electric power division's retail telecom consultant Vincent Lentsch. "The aim's the same – to provide reliable, cost effective power where there's no grid access – but the economics are changing." He points to growth in

"In remote areas Cat hybrid systems offer substantial savings."

the number of off-grid base stations in the developing world: "In 2007 there were 288,000, 99 percent of them diesel powered and using around 2 billion litres of fuel a year. But the networks are expanding rapidly, partly because regulators in emerging nations are insisting on coverage of rural areas as well as urban ones. So by next year that number will grow to nearly 700,000. Imagine the cost of diesel fuel for them, plus maintenance costs, and you can understand why telecoms companies are looking for ways to deliver more for less."

THE VERSATILE, COST-EFFECTIVE OPTION

After three years of intensive research and development at the Caterpillar Technical Center at Illinois, USA, hybrid power systems have emerged as a very reliable, cost-effective solution.

"It made sense to turn to batteries," says Tim Schulten, Cat electric power division's retail manager, "Typically our conventional configuration used two generator sets per tower, switching between them. Add batteries into the equation and you can dispense with one diesel genset. You can use a single set at an optimal load factor to charge the battery, then switch it off for a period and rely on battery power to operate the tower. Fuel and operating cost savings can be substantial."

Solar and wind power have been added to the mix in order to maximise versatility and cost-reduction while cutting emissions. With these options included, the blend of power generation options can be fine-tuned to optimally exploit individual site characteristics.

"In remote areas," states Tim, "Cat hybrid systems offer substantial savings compared with the cost of grid extension or fuel delivery for traditional systems. Fuel consumption can be reduced by between 30 and 100 percent, and genset maintenance and replacement intervals are extended. Payback periods can be three years or less in many installations."

GLOBAL REACH

And, adds Vincent, access to the Cat global dealer network brings further advantages. "From product specification to installation and ongoing support we have resources and a worldwide reach that others will struggle to match. And when it comes to ensuring total reliability along with optimum cost, that extra capability really makes a significant difference. And with installation of the first Cat hybrid power systems now well under way, it's a difference we'll soon be able to demonstrate in practise." ■



Cat hybrid power, a significant presence at this year's GSMA World Congress in Spain.



A mix of diesel power, batteries, solar and windpower – for optimum versatility in any location.



RENEWING CONFIDENCE IN THE FUTURE



Wood harvested from rubber plantations awaits transportation to Buchanan.

In the West African country of Liberia the Buchanan Renewables Group is converting biomass from disused rubber trees to help overcome a chronic power shortage in the country, as well as generating income by sales to electricity generators in Europe. They are also heavily engaged in replanting the rubber plantations that were once the country's major income earner – and Cat equipment is an integral part of their operations in Liberia.

Historically rubber production has been a mainstay of the Liberian economy. However, 11 years of civil war that ended only in 2003 left the industry with thousands of hectares of derelict rubber plantations, their trees untended and unwanted.

The founders, who met seeking business opportunities in Liberia in 2004, recognized that there was a global market for rubber wood to make fibreboard and in furniture production, and an emerging market in power generation using wood as a fuel. The possibility

of generating biomass from Liberia's redundant rubber trees is what sparked the idea for the company that is now aiming to significantly improve the lives of many of Liberia's 3 million-plus people.

By the end of 2007, the company had attracted the attention of Canadian entrepreneur and philanthropist, John McCall MacBain, who in 2006 had set up a foundation to promote health, education and the environment, particularly in Liberia. In April 2008 John McCall MacBain acquired Buchanan Renewable Energies – named after the Liberian town from which it operates – and expanded the project to include the use of biomass for local power generation.

In 2010, the company's biomass generation business and its social and environmental mission were further strengthened through a partnership with Vattenfall, the Swedish power company making a bold investment into biomass to reduce their fossil based emissions.



“At least one new rubber tree sapling is planted for each tree removed.”

Today the Buchanan Renewables Group operates two core businesses in Liberia: Buchanan Renewables Fuel, and Buchanan Renewables Power.

The Power group is establishing a power plant fuelled with woodchips near Kakata, approximately 50 kilometres from the country's capital, Monrovia. The plant's 36 megawatt capacity marks a significant improvement in the supply available to Monrovia's citizens who, until now, have had to make do with a mere nine megawatts.

Buchanan Renewables Fuel works with rubber farmers to fell and remove the non-producing trees from plantations and chip the rubber wood to use to produce electrical power. The group is also engaged in replanting the plantations to help revive the country's rubber industry. At least one new rubber tree sapling is planted for each non-productive tree removed.

CAT AT THE HEART OF THE PROJECT

Cat equipment plays a significant role in this process, working on plantations to remove and load trees for transport to the chipping plant in the port of Buchanan, as well as clearing and preparing sites for replanting. In the port Cat equipment is used for unloading timber, stacking wood and feeding the large chippers and for loading chips into stacking conveyors.

Paul Leas, Buchanan's fleet and procurement manager, explains the growth in Cat involvement: "The use of Cat equipment goes back to the beginning of the project. In 2007 and 2008 the company bought a fleet of used Cat equipment from the USA and UK-including nine excavators (Cat 345B, 330C's and a 320C), fourteen log skidders (3 Cat 545's and 11 Cat 525B's), six dozers (D10, D8,7 & D6R's), and three graders (12H, 140H and 140G) most of which are still being used. But there was a variety of other, non-Cat equipment in use as well

[More ▶](#)

Chipped rubber wood at the port of Buchanan.



when I joined the company at the beginning of 2010, and the mix didn't make sense. To be efficient, both in machine operation and with product support, we needed to standardize. Cat was the obvious choice. It's well designed, well made, and well suited for the harsh conditions we operate in here. It also comes with the best parts support, and offers the best resale value worldwide. and particularly in Africa where parts support is critical.

"So as the business – and with it the need for extra machines – has grown, we've turned to Cat. In fact one of my first tasks was to negotiate with JA Delmas, our local Cat dealer, for a supply and support package. As a result we've already taken delivery on two new D6T dozers, two new 545C skidders and a 573 feller buncher – the first Cat rubber tired feller buncher in Africa. We've also

we've improved our methodology a lot in the past year, partly thanks to our latest partner, Swedish power generation company Vattenfall. More than 40 of their plants in Europe are powered entirely or partially by biomass – including, now, our woodchips – so they contribute a lot to our knowledge and ability, as well as being an important customer.

"From exports of 95,000 tonnes last year, we're moving up to around 390,000 tonnes this year. And our research suggests that 60 to 75 percent of the country's 259,000 hectares of rubber trees are non-producing, which means there's still plenty of scope for expansion. So the future looks bright – for Buchanan Renewables and, just as importantly, for Liberia's rubber farmers and the population in general." ■

"From exports of 95,000 tonnes last year, we're moving up to 390,000 tonnes this year."

received two new Cat 320DFM log loaders and a 966H, with log forks and a 8 m³ chip bucket for port work."

All the equipment operated by Buchanan is operated intensively. A feller buncher, working only during daylight hours, will clock up around 3000 hours a year, while the equipment used for loading and unloading in the port will clock up between 4000 and 6000 hours a year. "This means a projected three to four year projected replacement cycle," says Paul. "We're yet to sell any, but some of the older equipment is getting tired. So the Cat resale value and marketability is going to become a positive factor for us very soon now."

BENEFITS TODAY AND FOR THE FUTURE

So what are the prospects – both for the Buchanan Renewables Group itself and for the Liberian people who are hoping to benefit from the company's activities?

Alexandra Baillie of Buchanan Renewables gives a hint. "We've given vocational training a big emphasis," she says. "So we now have 600 Liberian nationals working for the company, all of them trained by us. They now operate all our machinery. In addition,

Cat machines load felled rubber trees for transportation to Buchanan.



Find out more on the Cat forestry equipment lineup on:
www.uk.cat.com/forestry

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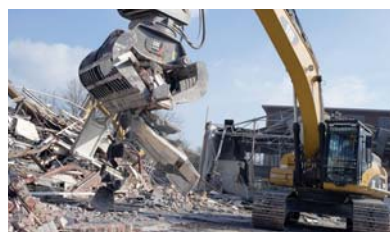
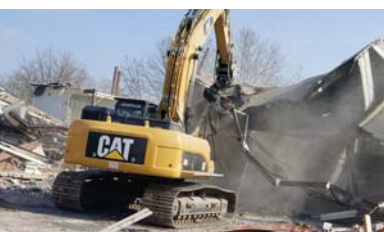


DEMOLITION AND SORTING GRAPPLES

Using our demolition and sorting grapples means you can handle virtually any demolition and reduction job with confidence. The grapples enable rapid, efficient stripping and sorting with their optimal loading capabilities and heavy-duty 360° rotation system. Easily accessible lubrication points also simplify maintenance and help prolong lifespan.

But that's not all. You also have the reassurance of our unrivalled spare parts service and vast dealer network. And our work tools generally have a high resale value. What's more, using them in combination with Cat machines gives you the perfect performance match. Uninterrupted productivity. And a single point of contact.

Work with confidence; use demolition and sorting grapples from Cat work tools. www.cat-worktools.com



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