

CAT MAGAZINE

**Creating the world's
most imaginative city**

**Cat Operator Challenge:
What it takes to win**

**In-depth:
The new skid steer loaders**

small machine

BIG PLAYER

Let's talk

The four new Cat C-Series Skid Steer Loaders deliver excellent digging performance with outstanding drawbar power so you get any job done faster.

- Great new cab
- Industry-first, sealed and pressurised cab option
- Air ride seats
- Seat-mounted, adjustable, joystick controls
- Easy maintenance cuts downtime
- Work tool range allows one machine to do the work of many

Contact your dealer now.





DEAR READER,

"Today's Work – Tomorrow's World" is our slogan. And this issue of Cat Magazine shows how that phrase is becoming reality on a giant scale - with the building of an entirely new

capital city, Astana in Kazakhstan. A truly amazing project that I think anyone in the construction industry would love to be part of. Cat Magazine travelled to this newest city on earth to see for itself some of the highly imaginative buildings and how the construction community is taking part.

Also in the following pages you can read how more than 50 of the world's best operators came together to compete in the annual Caterpillar Operator Challenge. Now in its tenth year, it once again lived up to its reputation as the 'Toughest Competition on Earth' - maybe next year you or one of your colleagues could win it.

But for now I hope you enjoy reading your latest issue of Cat Magazine.

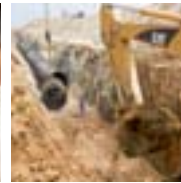
Best regards,

Paolo Fellin
Vice President
Caterpillar

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KASAKHSTAN'S CAPITAL

And how a small family business is helping to create it

MORE CHOICE MEANS MORE PRODUCTIVITY

With skid steer and multi-terrain loaders

THE TOUGHEST COMPETITION ON EARTH

Operator Challenge 2007

ISTANBUL SECURES WATER SUPPLY

With 47 Cat® machines

CLEANER AIR

With Ultra High Efficiency Air Filters

NEW HIGHLY VERSATILE 319D

Because bigger is not always better

PEOPLE

Michel Lo Guasto, Caterpillar's detective

Above is just a taste of what's in this issue of Cat Magazine – there's plenty more news and views. If you would like to see additional subjects in the next issue contact our publishers on CatMagazine@cat.com.

CAT in brief

CAT in brief

PRETTY IN PINK, FOR THE BEST OF REASONS



For more information about the Laura Lynn Foundation, visit www.lauralynnhospice.com

Would you rent a pink Cat machine? Ireland's Dublin-based Caterpillar® dealer McCormick Macnaughton Group are sure that plenty of their customers will, because by doing so they'll be helping raise money for the Laura Lynn Foundation, a charity aiming to build the country's first dedicated children's hospice in Dublin. "All rental proceeds from the company's Pink Mini programme are being donated to the foundation". Says group chairman Malcolm Macnaughton: "As a group we are hoping to raise significant funds for this worthy cause." The Pink Mini rental programme is just one of a number of fund raising activities for the foundation taking place throughout the group's nationwide network of Caterpillar and The Cat Rental Store depots.

SNOW SHIFTING? NO, IT'S COTTON

This Cat 226B skid steer loader is hard at work at a cotton gin mill in South Africa, loosening cotton to allow easier suction into the ginnery – and in the process boosting production at the mill by 40 percent. The mill manager stresses the importance of choosing the right machine for this environment: "The cotton would be contaminated by oil leaks on the pit floor and we chose Caterpillar because we expect it to be reliable."

Worldwide the Cat skid steer loader is proving its versatility in applications as diverse as the building industry, road making, agriculture, shipping, warehousing and landscaping.



Customer Gallery



"We've had it for 58 years, and it can still push a few tonnes," says Kurt Gugger, whose father bought this HT4 when he founded the family business six decades ago. Since then it's clocked up 20,000 service hours and helped train more than 20 different operators. "We don't use it now, but show it at exhibitions. Everyone is amazed at how earthmoving technology has changed so much."



ONE IN A MILLION?

Serena Janssen is a trainee demonstrator at Caterpillar's Demonstration and Learning Centre in Malaga, Spain. And yes, she's a woman. "I love my work, helping to demonstrate Cat machines – everything from simple forklifts to the massive mining trucks." And how did she get started in what most people would regard as a man's world? "I guess it's in my blood. My father was an operator."



6,200,000

Did you know that the Cat 797 off-highway truck has 12 on-board computers that run more than 6.2 million lines of computer code - which puts it in the same sophisticated class as a space shuttle.

Also, the 797 truck's total operating weight of 624 metric tonnes (1,375,000 pounds) is the same as two fully loaded Boeing 747s.

CAT number

HOW TO SAVE A TREE

As you can see from these pictures from sharp-eyed reader Christian Brichart, all it takes is a Cat wheel loader and a skilled operating team. This was the scene last August in the French village of Crozet, below the Jura mountains near Geneva. The 40-year old plane tree, situated in the village schoolyard, could no longer stay there due to works that needed to be done on the site during the school holidays. So rather than destroying it, the team decided to move the tree and replant it 15 metres

away, saving it for the enjoyment of future generations. "Good machine, good job," commented the site foreman to Christian when the work was completed. And a great use for a Caterpillar machine – helping conserve and enrich our environment.

AFTER 40 YEARS
OF GROWING



KASAKHSTAN'S CAPITAL

AND HOW A SMALL FAMILY BUSINESS IS HELPING TO CREATE IT

It's early evening rush hour and thousands of people pack the roads making their way home. We pull up at a traffic light and are startled by the frantic 'beep-beeping' of a car's horn three lanes to the left of us. A man is leaning out of the window shouting something to our driver, who then shouts back, smiles and waves. As we move on, our driver – the local Cat dealer - tells us: "That was Yerken Shezebayev, a Cat machine owner. He's just ordered some new Ground Engaging Tools for his 320D."

It's the type of incident you rapidly get used to in this amazing city – where nothing is ordinary. Not the buildings, not the people, and certainly not the way of doing business. This is Astana: one of the most remarkable cities in the world, even to the most experienced of travellers this is something very special. A totally brand new city with some of the most innovative buildings imaginable – like some fabulous science fiction film. Only here the action is real.

[More ▶](#)





More than 600,000 people live here, and a million more are expected in the next few years. Just a decade ago it was little more than a village, but then Kazakhstan President Nazabayev decided to make it the location of his country's new showcase capital city. And, because Kazakhstan is one of the world's biggest oil producing nations, cash was no problem. From the very beginning only the best was good enough and the world's most celebrated architects were invited to 'let their imagination go'. They responded with incredible creations like the Baiterek Tower (pictured in the centre of the previous page), which looks like a gigantic sports trophy. Almost everyone who visits Astana climbs to its highest level – firstly, because it offers breathtaking views of the city: its marble palaces, shining skyscrapers, and abstract statues, all surrounded by the vast, semi-desert emptiness of the outlying steppes. And secondly, because there is a stone cast of the President's hand, into which you are invited to place your hand and make a wish. Why not? Almost anything seems possible in this city of extremes.

Another skyline-dominating construction will be 'Khan Shatyr': a giant 150-metre high transparent dome covering a ground area larger than ten full-sized football pitches. In less than a year it will be a city within a city, with cobbled streets, pavement cafes, canals, shopping centres, and even a golf course! The idea is to recreate summer, so that when outside temperatures plummet to -40°C, the residents of Astana can play outdoor tennis, enjoy leisurely boat rides or sip drinks on one of the leafy terraces.

A constructor's paradise

There is so much work going on, with lots more planned, that construction companies of all sizes are in big demand. "Basically, if you have a machine, you can start your own business," says Bahytfeek Shezebayev, one of the four brothers who own the Zhasmin-Astana construction company.

The brothers started their business just three years ago with a single, used Cat excavator. After doing some small jobs they had enough money to buy four new machines: a 325D and three 320D hydraulic excavators. They now have a very prosperous business with

several full-time operators on their payroll. "We could never have grown so quickly without Borusan, our local Cat dealer," says Bahytfeek. "They have helped us with all kinds of business contacts, and with financing the new machines and, of course, by helping to ensure they stay in good condition."

Astana's future is looking very bright. Massive investments in all infrastructure (including government buildings, sports centres, roads, housing, hospitals, and schools) have made the city a constructor's paradise. When asked about their vision of the future, Yerken Shezebayev, who at 31 is the eldest of the four brothers, replies "Within a few years I expect to have added a couple of Cat bulldozers, some Cat compactors and lots more Cat excavators. The business opportunities here are as fantastic as the buildings."

Not surprisingly, with so much intense construction work, skilled machine operators are in short supply. "You have to pay good wages," says Bahytfeek. "And obviously this has attracted operators from far and wide. In Astana today, you can find operators from Turkey, Croatia, Russia, China, Uzbekistan and elsewhere. But even with all these guys, we still have a shortage. That's why I must train people from scratch. Fortunately, the Cat excavators are very easy to learn on."

Night time work

Meanwhile, the brothers have just finished a 13-metre deep pit for a six-storey underground car park. The area of the pit is 45x65 metres, and the team has moved 45,000 tonnes of earth in four months.

"We would normally have finished much sooner," says Yerken. "But we could only work at night: the site is in the city centre and the trucks couldn't get through the day-time traffic."

The brothers are now busy at work on another pit for a seven-storey underground car park. This one 25 metres deep, with 105,000 tonnes of earth to move.

Why Caterpillar?

"They're the best," says Yerken. "The machines are always of high quality, with excellent productivity."

Cab comfort is also appreciated. "It gets very cold in the winter, so a nice cab really helps. Often the top two metres of soil are completely frozen and you need to blast or rip them before digging. Borusan, our Cat dealer is another reason we choose Cat. If we have any problems, Yergali is quick to send one of his technicians."

Borusan has branches across Kazakhstan supporting the mining, gas and oil industries in the country's more remote areas. The office in Astana is headed by Yergali Shabanbayev – our driver at the start of this article. He is known as Mr Caterpillar by the local construction community. Which he describes as "Very entrepreneurial and very informal." Where else would you get people placing spare parts orders in the middle of a rush hour traffic jam? ■



"Basically, if you've got a machine, you're in business" - Bahytsek and Yerken Shezebayev of the Zhasmin-Astana construction company.



On almost every street corner, Cat machines are at work helping to build this amazing city.



The futuristic 'Khan Shtyry': 150 metres high, and covering an area of more than ten football pitches.

MORE CHOICE MEANS PRODUCTIVITY

WITH SKID STEER AND MULTI-TERRAIN LOADERS



Caterpillar has broadened the appeal of its skid steer loader (SSL) and multi-terrain loader (MTL) lines with the introduction of the C-series range of machines. The four new Caterpillar C-Series SSL's and three-new C-Series MTL's are outstanding products, offering unique features in the industry for decreased owning and operating costs. It is set to give operators an extremely versatile and powerful machine, to get the best out of the work tools, while offering the best comfort in the industry.

A skid steer or multi-terrain loader is far more than a loading machine, both wheeled and tracked models are compact powered tool carriers capable of tackling a wide range of jobs on site: you can fit more than 150 work tools.

A true multi tool machine: offering even more productivity from your CAT work tools.

The SSLs and MTLs C-Series can be qualified more than ever as multi-tool machines, providing a greater choice for customers. Buckets for a wide range of materials and densities are available, plus fork carriage and tines for carrying, loading and unloading palletised material.

Landscape and gardening customers can choose from a landscape tiller, power rake and landscape rake to break up ground, remove surface debris and leave ground ready for planting. A 6-way blade will create undulating features and an auger fitted





with a tree bit can drill holes for a tree root ball or, with a standard bit, a fence post.

For road and car park maintenance, five cold planers with optional cutting widths remove asphalt or concrete prior to resurfacing and a utility broom removes planer chippings from the cut. A vibratory roller compacts small areas of asphalt, and angle brooms or pick up brooms cater for general clean up work. Five snowblowers are also available.

Utility contractors can choose from two trencher models with optional chain widths. There are also three backhoe attachments, plus a range of wheel saws for trench cutting in asphalt or hard ground.

For ground maintenance customers, a mulcher reduces small trees and bushes to chippings and a brushcutter removes small bushes and long grass. A stump grinder reduces tree stumps to below ground level.

For industrial and demolition customers the industrial grapple bucket and industrial grapple fork are robust, with high force grapples to grab, sort and carry a wide

variety of materials. A hydraulic shear is available for the cutting of rebar and a hammer is available to break concrete.

Unparalleled machine control

For maximum performance, the C-Series SSLs and MTLs offer precise control providing a consistent, accurate machine response, straight line tracking, selectable implement, work speed controls, to ensure the best fit of the machine to the work tools and application.

The AMICS, Advanced Machine Information and Control System allows the operator to pre-set the travel speed at a lower and constant speed, while enabling full hydraulic power to be transmitted to the work tool. This greatly improves productivity and work accuracy especially when using high-powered attachments such as cold planers or mulchers.

Optional on all Caterpillar C-Series is the High Flow XPS that provides all the benefits from increased auxiliary flow (speed) and pressure (torque). This key design feature is accomplished through the use

of an industry exclusive, load-sensing, variable displacement piston pump. This pump delivers high pressure and high auxiliary hydraulic flow for maximum hydraulic horsepower and performance. By increasing flow and pressure, maximum performance is achieved with all work tools.

High comfort level and productivity guaranteed - even on rough terrain

The C-Series SSL and MTLs features a unique sealed and pressurized cab, which features high-powered heating and ventilation or optional air-conditioning. This clean air environment increases operator comfort and reduces fatigue. The sealed cab also greatly reduces internal noise levels to the operator's ear.

Cab visibility is improved, with larger rear, side and roof glass. The cab doorway offers an exceptional view to the work tools, while the sloped radiator design at the rear, combined with a large standard convex rear view mirror, allows the operator excellent visibility to the rear of the machine.

More ►

Machine	246C	256C	262C	272C	277C	287C	297C
Skid Steer Loader (SSL) or Multi-terrain Loader (MTL)	SSL	SSL	SSL	SSL	MTL	MTL	MTL
High flow option	✓	✓	✓	✓	✓	✓	✓
XPS option	✓	✓	✓	✓	✓	✓	✓
Rated operating capacity (kg)	975	1,066	1,225	1,474	1,457	1,748	1,920
Operating weight (kg)	3,348	3,432	3,614	3,761	4,259	4,479	4,640
Net power (hp)	73	83	83	91	84	84	92

All machines have a hydraulic flow of 84 std/125 litres/min XPS and a hydraulic pressure of 230 std/280 bar XPS



Seat mounted, independent pod mounted controls and the optional industry first air ride seat offers an unparalleled comfort to the operator. Combined with the optional ride control system, “you have now an extremely smooth ride, and an excellent bucket retention. So the operator is more comfortable, and works more efficiently” says Marie Eve Penel, Caterpillar’s SSL and MTL Product Specialist.

MTLs ... a brand new undercarriage for lower owning and operating costs

The C-series undercarriage has been designed to reduce owning and operating costs. Thanks to a complete new undercarriage design, where all key components can be serviced individually: “you no longer need to change and dismount half of the undercarriage, when only one piece needs to be changed! 15 minutes is enough to change any undercarriage parts, even the sprocket saving time and costs” continues Marie Eve.

To further reduce service expenditure on the MTLs, Caterpillar has redesigned the rubber tracks, reducing weight and drastically cutting the maintenance time. The completely open track frame design allows material to pass through the track, rather than building up inside the rollers. The idlers and bogie wheels themselves are easily reached and can now be serviced independently, greatly reducing the time necessary to maintain the tracks. This shorter service time plus the longer track life afforded by the improved design and driven turns will reduce ownership and operating costs for customers.

There is a choice of single level or dual suspension undercarriages, both of which use torsion axles to maintain contact with the ground. The torsion axle reduces shock and vibration to the cab, improving the ride for the operator and resulting in improved load retention in the bucket. Dual level suspension uses the same concept as single level, but with the addition of oscillating bogie wheels. This results in more track in contact with the ground, for one of the best rides in the industry, an added 11 percent traction, and an unparalleled low ground pressure.

Two-speed travel is available as an option on the MTLs with dual level suspension. Maximum travel speed rises up 14.9 km/h, cutting travel times between work areas as well as increasing productivity.

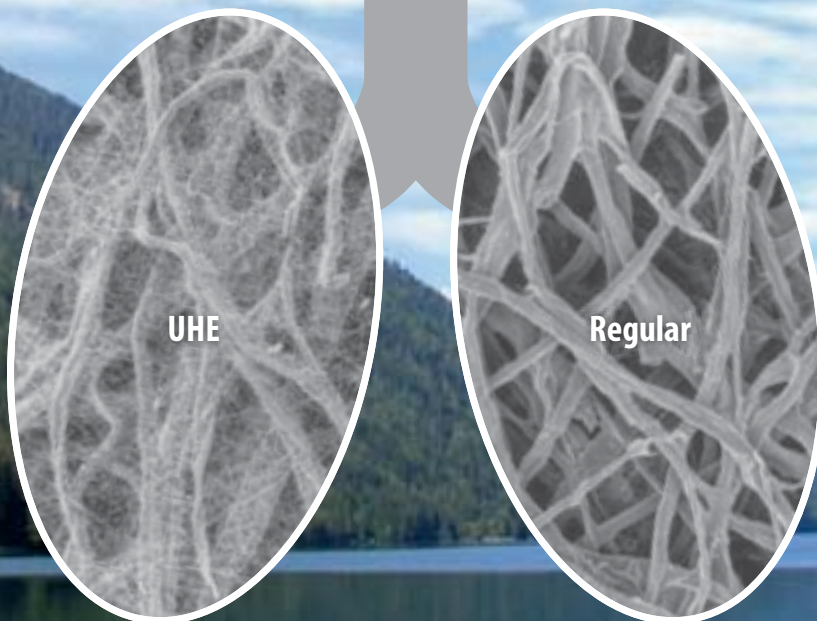
In every area of the design Caterpillar has listened to its customers’ needs and improved both the skid steer and the multi-terrain loaders. All models are now more powerful, more versatile, and easier to operate with more comfort and visibility for the operator. The machines have lower noise levels, reduced maintenance and lower operating costs, and many other outstanding features. ■

CLEANER AIR

SIX TIMES LONGER

They may not be the most visible of systems in your
Cat machine, but without their work profits would
soon decrease. We're talking about air filters.

HEALTHIER LUNGS FOR YOUR MACHINE



UHE filters have a finer filtration media, which traps dust on the surface rather than further down in the filter. This keeps the body of the UHE filter more porous – up to six times longer.

With fewer filter changes there is less risk of contamination during service.



Caterpillar's Ultra High Efficiency (UHE) Air Filters have been proven to last up to six times longer than regular-grade filters, and in some cases even longer. That's because they have a special media that traps dust on the surface rather than further down in the filter. This keeps the body of the filter porous – unlike regular filters, which become clogged with dust deep inside. With a more porous body the UHE filter lets the engine 'breathe' more easily for longer. In addition, the special media has a very fine surface so it's more efficient at trapping the dust.

All of which means: fewer filter changes per year and less down time; less chance of engine contamination during filter change; less engine wear and tear; and better fuel economy thanks to improved engine performance.

Dramatic cost reduction

UHE Air Filters cost a fraction more than regular filters, but because they last up to six times longer, their cost per hour of usage is dramatically lower.

Of course, with UHE filters lasting a lot longer, Caterpillar dealers will sell fewer units – and that's fine, because as Ernesto Antunez De Mayolo, from Caterpillar's Product Support Division explains: "We are not in the business of selling filters. We sell machines. And the best way to do this is by minimising the costs of owning and operating them. ■"





THE TOUGHEST COMPETITION ON EARTH

They came from all corners of Europe, the Middle East and the CIS - 48 of the world's best machine operators. All with one goal in mind: to win the 2007 Caterpillar Operator Challenge, the world's only international competition that brings together operators to test their skills, their concentration and their safety awareness. To reach the finals, each of the participants had to win a series of local and national events. Anyone could enter, but only the best would win.

For the tenth year running, the Caterpillar Demonstration and Learning Centre hosted the competition. An ideal venue: more than 90 hectares of rolling hills, specially made job sites, and more than US\$20 million of top-quality machines.



"In Italy, more than 600 people entered the local competitions," says Giuliano Cremonesi from CGT, the local Caterpillar dealer. "But we narrowed it down to our best three. Obviously we want one of our lads to win, and they are certainly giving 100 percent during the tests. But whatever happens, in reality everyone here is already a winner. And in between tests there is plenty of camaraderie, it's really a great atmosphere."

Over the three competition days, each finalist must complete six tests. Their performance is measured in terms of speed, accuracy and safety awareness. Before competing, participants see a video of how an experienced Caterpillar instructor handles the test. Here, in the purpose-built classroom, the instructors explain what the competitors must do and how best to achieve it. There are also plenty of opportunities for specific questions from the competitors - in the classroom and at the test site.

Most of the tests have a special practice machine - so even those operators who have never operated a multi-terrain loader, for example, get a chance to see how it feels before taking on the challenge. Even so, some of the tests are proving to be more difficult than expected. "We don't use quick couplers or video cameras in Turkey," says Yunus Sert. "And there are no off-highway trucks in Holland," replies Dutchman, John Janse.

It's all part of the friendly rivalry that characterises the four-day event, which culminates in a spectacular gala dinner and prize presentation ceremony.

Meanwhile

Ivo Bradac, from the Czech Republic, sits in semi-darkness, almost totally still. His eyes fixed on the computer graphics projected on the wall in front of him. He guides his simulated motor grader through the virtual landscape, at first slowly, then with more speed. It's the first time he's used joystick control and with each second he's becoming more confident, more accurate, and faster. As one of the three learning modules in this year's Caterpillar Operator Challenge, Ivo, like many of the competitors is using the computer simulator to sharpen and expand his already considerable skills. Skills that are essential to compete in the 'Toughest Competition on Earth'. ■

A chance to try the latest technologies

The Operator Challenge is not only a gritty contest of man and iron, it's also a chance for participants to try out machines and technologies that they may not be familiar with. This year's participants could try-out roto-tilt, command control steering, and AccuGrade™ technologies - along with all the different machines.



And the winner is...

Peter Van Schaik from the Netherlands. He had the best overall score, and came top in the wheeled excavator test. Peter has competed in the Challenge for the past three years and says that this was perhaps the toughest: because it had only six tests instead of ten. "If you make a mistake in one test your overall average really goes down. Thankfully I didn't make any big mistakes and I am very, very pleased to have won."



NEW HIGHLY VERSATILE 319D

Because bigger is not always better

On most jobsites today, medium sized excavators are used for a wide variety of applications such as loading, trenching, lifting, grading, and more. They also handle tools such as tilting buckets or hammers for example. In many cases, those 20+ tonne excavators are not pushed to their productivity limits, however, they need to be able to perform a wide variety of tasks and stay low on fuel. With this in mind, Caterpillar upgraded its 318C and came up with the new 319D.

Weighing between 19 and 20.5 tonnes, the 319D will handle a variety of jobs with excellence. State-of-the-art all-round visibility, including parallel wipers and maximized glass area, help ensure safe and comfortable operation. Joysticks and seat move together on the same suspension to provide accurate control in all situations. In addition, the unique 'Smart Boom' allows the boom to lower under its own weight during hammering; thereby eliminating mis-fires. This boom can come with a variable-angle feature, which allows the operator to dig much closer to the machine, effectively reducing the number of times he needs to reposition the machine. Also, like all D-Series machines, tool changes are made quick and easy thanks to the Tool Control system.

"It's a perfect match with today's customer requirements in the 20-tonne size class" says Vincent Lys, Caterpillar product specialist. "This machine can do everything that his bigger sisters do, and even though it is not quite as fast when it is under load the fuel savings are significant!"

Best fuel efficiency in its size class

As stated above, the 319D may not be quite as powerful as the 320D Series, but it burns a lot less fuel, thanks in part to the four-cylinder ACERT™ engine rather than a six-cylinder. For example, when loading a truck using a 1.3 cubic metre bucket, and with the Economy Mode activated, it can move 14 tonnes of dirt per litre of fuel - which makes the machine the most fuel efficient in its size class. ■



Only 1 litre
of fuel needed
to move 14 tonnes



Istanbul secures water supply with 47 Cat machines



Last summer Istanbul was at crisis point: the city's drinking water was about to run out. After several years of near-drought conditions and with the city's population growing by almost half a million each year, the water levels in the local reservoirs had sunk by 75 percent. If Istanbul's factories, offices, shops, schools, hospitals... and citizens were to continue, urgent action was required.

That's when the Turkish government decided to accelerate its ambitious Melen pipeline project. A project designed to pipe fresh water from the Melen River, 180 kilometres away, directly into Istanbul. This by itself was a considerable engineering challenge, but the pipeline also had to be routed underneath the 70 metre-deep, two kilometre-wide Bosphorus straits – the stretch of seawater that connects the Mediterranean with the Black Sea.

Work had started six years earlier, and was on schedule to finish its first stage in 2008, but with the upcoming water shortage crisis, the project needed to be shifted into top gear and brought forward.

It got that acceleration when the local Turkish Cat dealer, Borusan Makina, sent 47 brand new Cat rental machines. To ensure they remained in top condition at all times, Borusan Makina equipped them with the state-of-the-art remote machine monitoring system "Product Link". It also supplied a full-time service technician and a fully equipped Customer Support Agreement (CSA) van.

In total, Borusan Makina hired out ten 324Ds, ten 325Ds, twelve 330Ds, nine 966Hs, two 140Hs, two D7RIIs, and two CS-533Es to the Alarko Construction Company, the main contractor for the Melen Project.

First stage completed after five months

Within five months of receiving the new machines, the first stage was complete: 180 kilometres of steel pipeline, 25 of them in tunnels now delivers 268 million cubic metres of fresh water annually. And the work goes on: the project's ultimate goal is to supply 1,180 billion cubic metres of water each year.

Dr. Bilhan Elmaci, used equipment and rental coordination manager of Borusan Makina, says: "This project is a key infrastructure development for Istanbul, and we are proud to be part of this initiative. It highlights the importance of customer-supplier cooperation." ■



All of the 47 new Cat machines were equipped with the state-of-the-art remote machine monitoring system "Product Link".



Michel Lo Guasto

"You have to study the evidence from a wide range of sources. And as soon as you spot a potential problem, take action quickly."

Caterpillar's detective

Michel Lo Guasto is a detective. His job is to collect evidence of potential problems in Cat machines that are already in the field, and then solve them - before they become serious for customers. Cat Magazine decided to dig a little deeper

Michel's official job title is "Continuous Product Improvement Service Engineer". He uses sophisticated software and predictive analysis.

What methods do you use?

I'm in daily contact by phone with our dealers. We talk about their customers' machines and any repairs that they've done. I also have formal face-to-face meetings twice a year. We talk in depth about possible machine problems. Add to that all the warranty claim data, all the emails, and all the field trips I make with dealers to customer job sites, and you get an idea of all the different sources I get information from.

Are you the only Cat detective?

No. There are five of us here in Gosselies, the Belgian Caterpillar factory. And there are more in all the other Caterpillar manufacturing sites across the world. I specialise in medium wheel loaders.

Do you work alone?

No. Once I detect a potential problem I assemble a team of various experts to help solve it. Depending on the nature of the problem the team could comprise mechanical or electrical engineers, purchasers, assembly line managers and parts managers.

What is your ultimate aim?

My aim is to help Cat machine owners make money. They can do this best if their Cat machines work at optimum efficiency – without failure. That's why, before a new model is released for sale, Caterpillar tests it for literally thousands of hours in trials. My job is to effectively follow these machines in the field to prevent possible problems.

What actions do you take?

It depends... on the type of issue we're dealing with. The team analyses it using 6 Sigma techniques to identify the root cause. We then develop a solution - this may involve changing the assembly technique at the factory,

or changing the parts supplier. Or, working with the supplier to improve the part's specifications.

We also communicate to all our dealers what actions they need to take to ensure that their customers avoid the problem in the field. This may involve installing an upgraded part, for example, or recalibrating a component.

Who else sees this information?

We have a worldwide database of all investigations: their appearance, frequency, and urgency are all recorded. We share this information with our new product development departments so they can build in problem prevention.

Finally how did you become a detective?

I used to be a Cat product design engineer, and went on to become quality analyst. This gave me the skills to study evidence, pinpoint problem areas and discover solutions. All in a day's work. ■



CAT FLASHBACK

In the sweltering heat of the Dominican Republic, this 1946 No. 12 motor grader ensures the roads on a banana plantation are – unlike the fruit – straight and even.
(Photo courtesy of Caterpillar Inc. Corporate Archives)

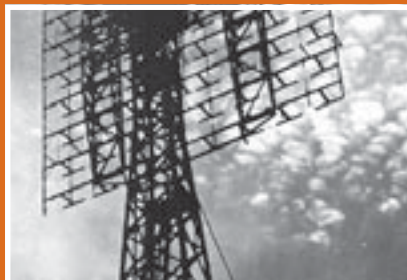
1946

Other notable events of 1946

UNICEF is created. Dedicated to providing food, clothing and healthcare to children. UNICEF went on to help millions, and continues to this day.



Birth of space age – scientists successfully bounce radar waves off the Moon, proving communication into space is possible and marking the start of the space age.



The Paris fashion community is stunned when designer Louis Réard unveils his latest creation: the bikini. We wonder if it came in the box the model is holding.



COMFORTABLE LEADER



M-Series Motor Graders

In a major technological breakthrough, Caterpillar has successfully replaced the traditional steering wheel and the complex series of control levers with two, easy-to-use, ergonomically designed joysticks.

Drawbar circle moldboard adjustment is fast and easy, cutting downtime and increasing accuracy. A new all wheel drive option with exclusive steering compensation enables tighter 'powered turns'.

The optional AccuGrade™ grading system generates productivity increases of up to 50% compared with traditional methods.

The revolutionary Cat® M-Series Motor Graders deliver higher operational efficiency, better visibility, easier servicing - and help you finish jobs faster.

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