

# spirit

VOLVO CONSTRUCTION EQUIPMENT MAGAZINE



## CARRYING THE WEIGHT OF HISTORY

CUTTING-EDGE VOLVO MACHINES WORKING IN A 500-YEAR-OLD QUARRY

**When it rains, it pours:** Reliable machines keep things moving in Papua New Guinea

**Spotlight Tier IV Final/Stage IV:** How Volvo is squaring the emissions circle

**Application inspiration:** Innovative solutions putting the dealer at the heart of the process

**Operator corner:** Two men, one passion – it has to be a Volvo machine

**Plus:** Volvo poised for economic growth in Nigeria, and transforming young lives in Brazil





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## Opposites attract

F. Scott Fitzgerald once said that the test of a first-rate intelligence is the ability to have two opposing ideas in mind at the same time and still be able to function.

It may be difficult believing in two conflicting concepts simultaneously. But if there's one thing that's clear in this latest edition of Spirit magazine, it's that, for Volvo, dealing with opposites is no problem at all.

In this issue of Spirit, we venture into the Apuan Alps of Italy to visit a 500-year-old quarry that was once used by Michelangelo and has yielded marble that's been part of some of the world's most iconic buildings and sculptures. The Italian stone company Henraux has been working the quarry for almost 200 years but these days uses a Volvo excavator and wheel loader to help handle the large volumes of marble produced there.

The milieu of an ancient quarry provides a striking contrast to the story that follows, detailing Volvo CE's brand new state-of-the-art Tier IV Final-compliant engines. Using cutting edge technology, the new engines slash certain harmful emissions by 95%.

Spirit also treks into the remote highlands of Papua New Guinea, where 70 Volvo machines are working to lay a liquefied natural gas pipeline. If the desolation of the region weren't difficult enough to negotiate, the area also receives more than 10 meters of rainfall each year, making for some treacherous conditions, to say the least. But Volvo's machines are thriving there. Meanwhile in the hot, arid climes of New South Wales, Australia, a fleet of Volvo wheel loaders and articulated haulers work in a 300-acre sandpit — the largest on the continent.

And with so many stories of how hard Volvo machines work day in and day out, in all four corners of the world, we'd be remiss if we didn't show you that Volvo can play just as hard too. We talk with Guo Xiang, a Volvo CE aftermarket development manager and former merchant seaman who trained and sailed a test run with Team Sanya, one of the six participants in the 2011-12 Volvo Ocean Race. He calls the experience one of the toughest — but most unforgettable — of his life.



I guess it's true what they say about opposites attracting. And Volvo is proving, all over again, how adept it is at handling both ends of the spectrum — as well as everything in between.

**Klas Magnusson**

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# When it rains, it pours



**L**aying a liquefied natural gas pipeline in the remote highlands of Papua New Guinea presents some obvious obstacles. But throw in annual rainfall of more than 10 meters, steep mountainous terrain and limited infrastructure – and it can only be a job for Volvo Construction Equipment's powerful, reliable machinery to keep things moving.

## THE FIRST HURDLE

Eso Highlands Limited, a subsidiary of the world's largest publicly traded oil and gas company, ExxonMobil, has contracted Spiecapag to build 300km of liquefied natural gas (LNG) pipeline from the Hides natural gas fields in central PNG to Omati, located on the coast of the Papua Gulf. From here, the pipeline will run a further 400km underwater to an LNG processing plant near the country's capital, Port Moresby.

Work began on the onshore pipeline in 2010 and involves the construction of a right-of-way track running along either side of the gas pipeline; building temporary accommodation for workers; and extracting and transporting limestone to even out the various hills and valleys that cross the pipeline's path. For this, Spiecapag purchased a fleet of 70 Volvo CE machines, including 45 A30E articulated haulers, five G940 motor graders, four BL71 backhoe loaders, five L150F wheel loaders, seven PL4611 pipelayers and four SD100 compactors.

"Once the pipeline was awarded to Spiecapag, we had to move very quickly – there was almost no time for negotiations," says Thomas Stemper, Key Account Director Region EMEA at Volvo CE. "In partnership with Spiecapag, Volvo CE delivered the fleet via Singapore in just three months. It was a big request, but we did it – we even delivered the equipment ahead of schedule."

## LAYING THE FOUNDATIONS

The right-of-way that runs alongside the pipeline is an important track, used to transport workers, food, supplies, materials and fuel during the construction phase. The Volvo wheel loaders extract limestone from quarries along the pipeline's route and the articulated haulers transport the extracted and crushed limestone to the right-of-way. Here, the compactors and motor graders take over to flatten and compact the material, making an even road.

"It is very muddy," explains Olivier Balloy, project director at Spiecapag. "Without the powerful Volvo machines, we would not be able to continue work. Even during the so-called dry season, PNG can receive over 50cm of rain in a month. This can wash away the material we use to build up valleys to even out the terrain, so we need a continuous supply of rocks to refill these areas."

At various points along the right-of-way there are stockpiles of pipes ready to be laid. Volvo pipelayers are used to load specially adapted articulated haulers to transport the pipeline further down the track using large trailers. "The steep, muddy terrain means we cannot use conventional trucks to transport the pipes, but Volvo haulers are capable of driving off-road - making them the perfect solution," says Olivier.

"The haulers come straight from the factory adapted with the necessary attachments in order to easily attach the trailer," Olivier continues. "The machines can also be converted back to normal hauler configuration when the job's done, making them twice as valuable to us."

Volvo pipelayers were specifically selected for their stock-piling capability, as Olivier explains: "The pipelayers' 360° swing from an excavator-based design means that the machines don't have to move at all when loading the haulers at the pipe yard – helping to reduce the amount of fuel we use." The pipes vary in size – the biggest with a diameter of 81cm, up to 12 meters long and weighing over eight tons. "These pipes are transported up to 20km at a time, so the machinery needs to be robust," says Olivier.

*"Volvo haulers are capable of driving off-road - making them the perfect solution."*



*“It was a big request, but we did it – even delivering the equipment ahead of schedule.”*

Another use of the Volvo construction equipment is in the construction of the camps for employees working on the project. “The backhoe loaders are a great general purpose machine that can be used to build the temporary accommodation and in many other areas of the project.”


#### ADDED VALUE AND UNRIVALED SERVICE

“One of the main reasons we decided to partner with Volvo CE on this project was the added value it brings,” Olivier explains. “The sophisticated, yet robust machinery is easy to use – and Volvo even sent trainers to the site to show the local workforce how to use it. They explained operational functions as well as how to use the machine more efficiently and safely.”

Volvo machines are loaded with safety-enhancing features, such as increased visibility, rear-view cameras, ergonomic controls and on-board weighing systems, which Olivier believes are vital to the project. “Operator safety is a big focus for us,” he says.

Volvo CE’s Thomas Stemper, who was integral in the tendering process, points out that having a fleet of Volvo-made machines brings additional benefits. “Much of the Volvo range uses common parts, which makes parts availability much faster. We currently hold around US\$2 million worth of parts on site to support the project – and our parts distribution and logistics networks ensure that parts are delivered on time to maximize machine uptime.”

*“Having service support on site is of massive value to us because we need the machines to be working all the time.”*

A team of experienced Volvo technicians are based on site to carry out any repairs or maintenance. “The service we receive from Volvo is unrivaled,” Olivier explains. “Having service support on site is of massive value to us because we need the machines to be working all the time. The aftermarket service Volvo offers is the main advantage over any other construction equipment manufacturer, and we see a long and lasting relationship with our local dealer in Australia, CJD Equipment.” 

Text: Holly Brace







**The man overseeing Volvo growth in one of the world's fastest growing economies.**

“THE REASON PEOPLE ARE WORKING WITH US IN NIGERIA IS THAT WE HAVE A PRESENCE AND WE CAN OFFER THEM SUPPORT WHEREVER THEY ARE LOCATED.”



Fifty mobile workshops service customers across the country.

**I**N NIGERIA, IT SEEMS AS IF EVERYTHING IS GROWING: FROM THE LUSH GREEN TREES THAT SURROUND THE CAPITAL, ABUJA, TO THE TEEMING POPULATION OF ITS BUSINESS CENTER, LAGOS. IT IS A COUNTRY ON THE RISE.

The growing oil industry, improving infrastructure - typified by the fantastically ambitious Eko Atlantic project in Lagos - and an expanding middle class have created one of the fastest growing economies in the world.

As a result, while other construction markets struggle to cast off the effects of recession, the market in Nigeria is witnessing a growth and SMT-Nigeria, the Volvo dealer in Nigeria and many other African countries, is in an ideal position to benefit. In a sign of their confidence, they are due to open a new dealership in Abuja this summer, a facility of which they are rightly proud. It will employ approximately 50 people and be able to house 200 machines.

#### **EXTRA DIMENTION**

The nation's capital was built in the 1980s and continues to expand in size, so it is fitting that the new dealership is based there. Previously, SMT-Nigeria's main office was based in Lagos, working with more than 50 mobile workshops servicing customers across the country. Those workshops will continue their crucial work, but the new dealership will give the company an extra dimension.

“All the big construction companies have a main office in Abuja,” says Managing Director Pierre Peeters, whose role it is to drive sales and support in Nigeria.



The new dealership in Abuja will employ approximately 50 people and be able to house 200 machines.

“WE ALSO HAVE CONNECTION WITH LOCAL SCHOOLS TO TAKE STUDENTS AND OFFER APPRENTICESHIPS IN SALES, ADMINISTRATION OR TECHNICAL ROLES”.

“It is easier for them because the Nigerian government is based here and it’s a major customer. There is also the fact it is central and easier to get from there to other places across the country.”

Pierre, who has worked for SMT-Nigeria in several African countries and has an intimate knowledge of the market, will remain in Lagos. “We still need a big presence here. From a logistic point of view, all the machines arrive at the port there and most of the express shipments by plane. In the future it’s our aim to have a similar facility in Lagos to the one in Abuja.”

The Abuja dealership will also be the company’s technical headquarters, including a training center that will help address the skill shortages that are often an obstacle in emerging economies such as Nigeria. “It is a real challenge to source and recruit local qualified technicians,” Pierre explains. “For that reason, we are building the training facility. There is also a need to train operators, and we will have simulators to help achieve that”.

#### **CUSTOMER SERVICE**

“We also have connection with local schools to take students and offer apprenticeships in sales, administration or technical roles. It’s no different from Europe or anywhere else in that respect: you need to build a workforce.”

SMT-Group, or ATC-Nigeria as it was once known, initially gained a foothold in the African market in 2003. As a Belgian-owned company, it had historic links with the Democratic Republic of Congo and first established itself there.

Since then it has extended its presence across much of the continent, into countries like Benin, Burkina Faso, Burundi, Cameroon, Congo, DR Congo, Gabon, Ghana, Ivory Coast, Liberia, Rwanda and Togo.

Why is the market in Africa growing and SMT-Nigeria prospering? “We came with the mindset of Volvo customer service, which might not be present with some of our competitors.

“Also the commodity price evolution and the growing population have created a need and a pressure for faster infrastructure development.”

#### VITAL SUPPORT

Africa is a unique market with its own challenges but according to Pierre there are many similarities with other regions. “People still care about service, perhaps even more than in a European market. There if you don’t have a part, you can get it without any problem. Here it can become one week or two weeks if the support isn’t in place.

“To have a machine running, and people supporting that machine, is vitally important. So we make sure we are there for our customers. The reason people are working with us in Nigeria is that we have a presence and we can offer them support wherever they are located.

“That’s why the mobile workshops are such an essential requirement. The customers need technicians who can visit their facilities. Many of our customers have their own workshops on site and they are so scattered because their projects are scattered around the country. A quarry or road project does not want to move its equipment. You need to visit them.”

When *Volvo Spirit* magazine visited the new dealership in April, it was nearly ready. Some of the machines that will fill its vast concourse were in use at a nearby demolition site. Five EC380 excavators bought by ITB Nigeria were preparing a protective wall around an unused concrete building, before an electric shock will reduce it to rubble.



“A QUARRY OR ROAD PROJECT DOES NOT WANT TO MOVE ITS EQUIPMENT. YOU NEED TO VISIT THEM.”

Then a fleet of a Volvo excavators will move in to dig nine meters deep to provide foundations for the new building.

Yet another new development in Abuja, and another exciting project with SMT-Nigeria and Volvo Construction Equipment at its heart. **VN**

Text: Dan Waddell

Photography: Julian Cornish Trestrail



# CARRYING THE WEIGHT OF HISTORY



HIGH UP IN THE APUAN ALPS, OVERLOOKING THE FASHIONABLE RIVIERA BEACHES OF ITALY'S VERSILIA COAST, LIES AN ANCIENT QUARRY, WHICH WAS OPENED UP AND DEVELOPED 500 YEARS AGO BY

ONE OF HISTORY'S MOST INFLUENTIAL FIGURES. FOR CENTURIES MONTE ALTISSIMO HAS PRODUCED HIGH-QUALITY MARBLE FOR SOME OF THE WORLD'S GREAT BUILDINGS



AND PROVIDED THE RAW MATERIAL FOR THE GREATEST SCULPTORS. NOW, CUTTING-EDGE VOLVO CONSTRUCTION EQUIPMENT MACHINERY IS PLAYING ITS PART IN THE PRODUCTION PROCESS.



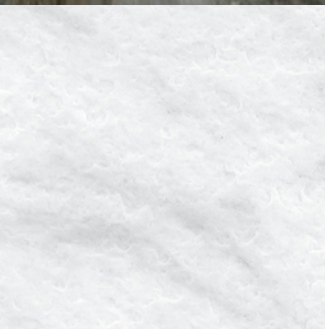


The rich mineral deposits of Monte Altissimo were discovered in the early 16th Century and were prepared for extraction by the great Renaissance figure Michelangelo. The sculptor, painter, architect, poet and engineer spent three years laying the foundation of marble quarrying in the area by overseeing the building of roads and bridges.

The quarries, situated northwest Tuscany, later fell into disuse and lay abandoned for over a hundred years until 1821 when Marco Borrini di Seravezza – a wealthy local – and Frenchman Jean-Baptiste Alexandre Henraux acquired them and returned them to operation. They have remained in continuous use ever since and today are part of the Henraux S.P.A., a leading stone company producing granite as well as marble from a number of quarries across this spectacular region.



The famous Henraux marble has been used in major works around the world including St. Isaac's Cathedral in St. Petersburg, the sacristy of St. Peter's in Rome, the reconstruction of the Abbey of Monte Cassino, the Grand Mosque at Abu Dhabi and the Emirates Towers in



*“OUR COMPANY HAS BEEN WORKING THE CARVAIOLE QUARRIES ON MONTE ALTISSIMO FOR ALMOST 200 YEARS”.*

Dubai. It has also been used by dozens of leading sculptors including Henry Moore, Jean Hans Arp, Hiram Powers, Juan Miró and Isamu Noguchi.

**CUTTING EDGE**

The quarry, which sits 1,300 meters (4,265 feet) above sea level, may be ancient in origin, but the same certainly cannot said of the construction equipment used for the difficult and sometimes dangerous task of quarrying and transporting the very heavy loads of marble in challenging conditions. Those tasks are fulfilled by a Volvo EC700C crawler excavator and L350F wheel loader.



“Our company has been working the Carvaiole quarries on Monte Altissimo for almost 200 years,” says Paolo Carli, chairman of Henraux. “Contemporary technology separates the marble from the mountain using diamond chainsaws or diamond wire machines. It is then transported down the valley in various-sized blocks, where it is transformed into slabs and blocks of different thicknesses.”



*“THE CARETRACK SYSTEM AND THE ASSISTANCE AND MAINTENANCE AGREEMENT GIVE US PEACE OF MIND.”*

The five varieties of marble quarried there are Cervaiolo Arabesque, Altissimo Arabesque, Cervaiolo statuary, Altissimo statuary and Altissimo Calacatta. These are used in major projects around the world, especially in the Middle East and the United States.

**VOLVO HIGH QUALITY**

Henraux uses an extensive of machinery to handle the large volumes of marble produced in the quarry and ranks the Volvo EC700C crawler excavator and the L350F wheel loader as among the most important of these. Carli says the company chose Volvo CE for a number of reasons.

“When we needed to equip ourselves with new machinery, we looked at Volvo CE because it provided the correct balance between extremely high quality technology and price,” he explains. “Naturally there are many different factors to take into consideration when selecting new machinery. We did not simply compare prices and features. We asked colleagues and people already operating Volvo CE machinery. We found that they had a very high opinion of Volvo.”

After carrying out a detailed assessment of their requirements, Henraux purchased the L350F and EC700C crawler excavator and added a L330E loader a little later. “The focus on environmental impact, obsessive attention to safety and advanced technology that Volvo CE provides were what convinced and satisfied us,” Carli adds.

“Another equally crucial factor was the excellent technical assistance service, which is both prompt and effective. The CareTrack system and the assistance and maintenance agreement give us peace of mind.”




Paolo Carli, chairman of Henraux

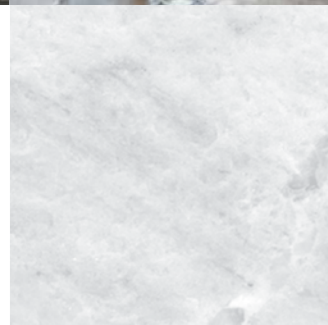
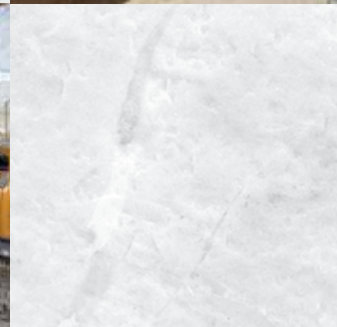
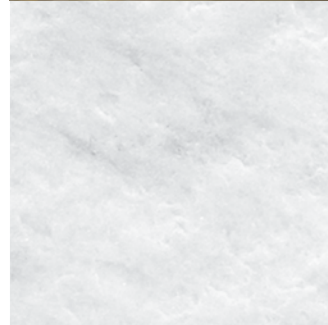
*"IT REQUIRES GREAT POWER TO LIFT AND CARRY THOSE BLOCKS WEIGHING 20 TO 30 TONS."*

### ENHANCING VALUE

Franco Pierotti, consultant to the works manager and custodian of the quarry's history, explains how Volvo CE machinery has made their work easier.

"The quarry is dominated by the machinery that is used in the various stages of quarrying. The Volvo EC700C crawler excavator in particular is used for a variety of different purposes. To start with, it is used to overturn the rock portion, known as a bench, that has been cut from the front of the quarry. When we are working in areas where movement is restricted, we used hydraulic jacks. Once the bench has been overturned, the crawler excavator EC700C moves it to the place where it is cut.

"When the block of marble is ready to leave the quarry, it is transported by the L350F wheel loader, which loads it onto the truck that takes it down to the valley. Thanks to these vehicles this is a relatively simple operation nowadays, but it requires great power to lift and carry those blocks weighing 20 to 30 tons," Pierotti adds. 







The secret to 'green power': How Volvo CE is squaring the emissions circle.

“IT ACCORDS FULLY WITH THE ‘VOLVO WAY’ TO COMMIT TO THE ENVIRONMENT AS WELL AS TO QUALITY.”



Newly developed engines meet all legislative requirements of Stage 4A.

**O**N JANUARY 1ST, 2014, THE LATEST CONSTRUCTION INDUSTRY MACHINE EMISSIONS LAWS COME INTO FORCE. TIER IV FINAL (IN THE US) OR STAGE IV (IN THE EUROPEAN UNION) MAY NOT MEAN MUCH TO MANY PEOPLE, SO LET'S PUT IT ANOTHER WAY: JANUARY 1 REPRESENTS THE CULMINATION OF A HISTORIC PHASE OF ENGINE DEVELOPMENT - AND AS A RESULT THINGS WILL NEVER BE THE SAME AGAIN.

Combined with the previous stage of legislation, these new standards will lead to emissions of NOx (nitrogen oxides produced during combustion) and particulate matter (engine soot) being slashed by an extraordinary 95%.

If you study the emissions levels of construction equipment over the last 15 years, indeed, it looks as if they have all but dropped off the chart.

#### **ASTONISHING ACHIEVEMENT**

That is an astonishing achievement in itself, one worthy of celebration. Except that Volvo Construction Equipment has gone further. Not only has the company cut emissions, but it has also worked hard to improve engine performance and fuel efficiency at the same time. So green can equate to power. Circles can be squared.

Some people responded to the new emissions requirements by arguing performance would inevitably dip. That was not the reaction at Volvo CE, though.

“It accords fully with the ‘Volvo Way’ to commit to the environment as well as to quality,” says Åsa Gabrielsson, director project office technology platforms. “Of course there are challenges to overcome when you undertake major technological changes, but it’s in the souls of our engineers to secure or surpass legal requirements while retaining performance, quality and an environmental focus.

“There were some issues during Tier IV Interim, but we are set for well-functioning launches in January 2014. Our project teams never had any doubt we would meet the targets.”

Indeed, the target from the outset was not just to meet the latest emission standards but to improve engine efficiency at the same time. “We saw it as an opportunity rather than a challenge,” Peter Engdahl, Manager Engine Performance says. “It was always our clear target to create extra customer value through better performance and lower fuel consumption. And, to be honest, we surpassed our own expectations.”

#### **A UNIQUE SOLUTION**

“In order to meet the final emission standards – requiring an 80% cut in NOx levels compared to previous limits – Volvo CE developed a new exhaust after treatment system (EATS). It uses selective catalytic reduction (SCR) technology, where a non-toxic liquid diesel emission fluid (urea) is injected into the catalytic converter to turn NOx into harmless nitrogen.

“The EATS will be used in both on-road products and off-road products, allowing us to take advantage of the extensive work performed by our colleagues within Volvo Trucks and Buses.”

While developing these technologies, however - SCR has already been comprehensively tested in more than one million Volvo trucks since 2005 – the company was simultaneously squeezing out further efficiencies from its Volvo Advanced Combustion Technology (V-ACT) engines.

“From the mechanical perspective, it’s the same engine concept as previously,” says Engdahl. “Since Tier IV Interim, though, as well as reducing NOx emission by a further 80%, we’ve re-optimized the combustion and the software controlling it. This will also mean we will have more than three years’ experience of these engines being used in our construction equipment when launching our Tier IV Final products.”

#### **MAINTENANCE AND EFFICIENCY IMPROVEMENTS**

Another major development for Tier IV Final/Stage IV, says Engdahl, was the removal of the particulate matter burner. Where this burner previously had to be started every 10-20 hours,



Volvo diesel engine, featuring V-ACT (Volvo Advanced Combustion Technology)

**“OUR PROJECT TEAMS NEVER HAD ANY DOUBT WE WOULD MEET THE TARGETS.”**

maintenance is now only needed every 500 hours, thus reducing the impact on operators to a minimum.

“In introducing SCR technology, engine efficiency becomes more tricky. It’s normally possible to drastically decrease the diesel fuel consumption, but in reality the operator also needs to cover the cost for the diesel emission fluid (Urea). During development, our engineers optimized the engines so as to produce the lowest possible total cost – of diesel and DEF – for customers.

“We have measured efficiency improvements – diesel and DEF – of up to 5% compared to Tier4 Interim. This will lead to a huge saving in the total cost of ownership.” Everyone has been involved in the success, says Peter Österberg, vice president of technology platforms.

#### **A CHALLENGE – AND SUCCESS – FOR EVERYONE**

“It’s been a knowledge challenge for the entire organization, from purchasing to operations, sales and the after-

market sector. Everyone has had to take this step. New things have been required from all of us.

“Yes, it’s been a major economic and technical feat, but as part of the Volvo Group we’ve been able to work closely together with our trucks and bus businesses, with Volvo Penta and with our engine partners.”

“This gives us a portfolio of solutions to draw on, since different sizes of machines have different requirements. None of our competitors have anything that we do not have. And we have a significant advantage over smaller manufacturers who cannot rely on such resources.”


Gabrielsson agrees: “The development projects are fully cross-functional, reflecting the entire Volvo CE organization, with high involvement also from Operations, Customer Solutions and Market functions. Together, with all involved machine projects, we prepare for Volvo CE manufacturing and market successful launches in our different regions.”

#### **BENEFITING THE CUSTOMER**

Volvo CE’s resources mean the new engines have been tested in every conceivable situation, ranging from sub-zero temperatures to extreme heat and at high altitude – while their reliability has been continuously monitored with customers offered day-by-day support via dedicated teams of technicians. Indeed, the engines have undergone more than 25,000 hours of testing in articulated haulers, wheel loaders and excavators as well as in engine test benches.

Back in 2008-9, there had been fears that the construction industry would contest some of the measures required by the new emissions legislation, for example the idea of carrying urea on machines and of creating the infrastructure to distribute it to remote job sites. Those fears no longer exist, underlining how far the industry – and Volvo CE – have come.

“It’s been hard work, yes, and we’re proud of what we have done,” Engdahl says. “We have, after all, some 250 models of machines, even if not all are subject to the new legislation. We’ve been thinking about these issues every day for the past six years.

“But that’s also meant learning new things on a daily basis as well, which makes the job so exciting. We are very well placed for January 2014. The next challenge will be to ensure that our success during testing is replicated out in the field, so that all our customers benefit fully.” 

Text: Tony Lawrence



#### **EXTREME TESTING**

From sub-zero conditions to high altitudes and the scorching heat, Volvo CE’s Stage IV/Tier 4 Final technology has been through the toughest tests to ensure that the latest generation of Volvo engines delivers maximum performance and reliability.

As part of the testing and validation process, prototype articulated haulers, wheel loaders and excavators fitted with Volvo’s Stage IV/Tier 4f technology were shipped to remote locations for cold climate, high altitude and summer testing. Each testing expedition involves around 100 engine and machine engineers, who together carry out hundreds of tests over the month-long expedition. The tests are repeated twice – once during the development phase and once later on in the process for verification.

Volvo CE holds its winter expeditions at the deepest point of winter in Kiruna in the far north of Sweden, close to the Arctic Circle, where temperatures drop (and stay) well below -30°C (-86°F). The cold climate testing was held at the Kiruna mine – the largest and most modern underground iron ore mine in the world. Here, a Volvo customer who operates at the production site incorporated the prototype machines into his fleet. This meant that not only could Volvo engineers collect data and monitor performance in a real life situation, but they were also able to understand how the new technology felt from the operator’s point of view.

Other tests included repeating standard working cycles and cold start optimization. “Facing freezing temperatures in cold climate testing is just one part of the development process – but it is an essential procedure in order to make sure the engine, exhaust after-treatment and all the systems and sub-systems can handle these extreme winter temperatures,” says Jan Guthammar, chief project manager for Volvo CE’s Stage IV/Tier 4f initiative.

“Taking it to the other extreme, in Spain we conducted tests on test tracks and monitored how the technology coped in the extreme heat and demanding applications,” Jan continues. “For example, we looked at how a Stage IV/Tier 4f articulated hauler reacted to being driven up a very steep hill, with a full load, in the blistering heat. The machines were also tested at 3,500 meters (11,500 feet) above sea level during high altitude tests in Les Deux Alpes, France. Here, the air is thin and atmospheric pressure is low so we needed to test and verify machine performance, fuel consumption, engine response and startability in these rarefied conditions.

When you operate at high altitudes – where there is much less oxygen in the air – it will obviously have a detrimental effect on all combustion engines, as oxygen is key to the combustion cycle. However, the latest generation of Volvo machines will have improved performance in these difficult conditions – in fact, from both our internal results and from feedback from our customers who are currently operating these machines, we can see that the entire Stage IV/Tier 4f range has improved performance, fuel efficiency and reliability.”

# CHILD'S PLAY IN AUSTRALIA'S BIGGEST SANDPIT



IMAGINE GOING TO WORK EACH DAY IN AUSTRALIA'S BIGGEST SANDPIT – THAT'S WHAT THE MACHINE OPERATORS AT MACKA'S SAND & SOIL SUPPLIES GET TO DO. LOCATED TWO KILOMETERS (1.2 MILES) INLAND FROM THE BREATHTAKING COASTLINE OF NEW SOUTH WALES, AUSTRALIA, THIS SAND QUARRY IS LIKE NO OTHER.

**R**obert Mackenzie, or Macka as he's known, is not your average entrepreneur. Seven years ago, the married father of three decided to take a break from his successful sand extraction business and whisk his family away for the adventure of a lifetime (though his oldest daughter had to stay at home to pursue her hairdressing apprenticeship). The jovial Australian Macka, 43, hadn't so much as looked at a map before they set off from their home in Salt Ash, 200 km (124 miles) north of Sydney in New South Wales – but that was all part of the fun.

“I wanted to see the real Australia – and what better way to do it than spending time together as a family,” Macka explains. “We didn't want to go to all the conventional spots that tourists flock to; we wanted to see the things that nobody else gets to see. Whether we were watching the sun rise on a deserted beach in Western Australia or discovering new cultures in Tasmania, we made every second count.”

**“IT IS LIKE STEPPING INTO ANOTHER WORLD. THE VISION OF SUCH VAST QUANTITIES OF FINE WHITE SAND IS BREATHTAKING.”**

Together the Mackenzies traveled over 26,000 km (16,000 miles) during their year-long odyssey, homeschooling their two boys, then ages 10 and 11, along the way. “The highlight for us was meeting the Aboriginal tribes that lived over 800km (497 miles) from a main road – let alone shops or restaurants. They welcomed us so openly into their community – and even into their homes,” he recalls. “We bonded closely with one particular family and later invited them to visit us in Newcastle. It was the first time some of them had taken a flight, their first trip to the hairdressers and cinema – but as much as they loved experiencing all these new things, they couldn't wait to get back to their community. That was truly humbling.”

And so too were the Mackenzies happy to return home to the family business – Macka's Sand & Soil Supplies, founded by Macka himself in 1992. With his original pit almost depleted, Macka recently entered an exhaustive tendering process and won the rights to begin extraction of a 300-acre area that contains an estimated 154 million tons of fine sand. The land is owned by the Worimi people (Indigenous

Australians native to the region) who retained freehold land for sand extraction from the state government as part of the handing back of Worimi land for the Stockton Bight (now known as the Worimi Conservation Lands). Thanks to this win, the company will continue to shift around one million tons of sand every year from the southern hemisphere's largest sand deposit.

Climbing up to the deserted coastal dunes, far from the tourist trails, is like stepping into another world. The vision of such vast quantities of fine, white sand is breathtaking.

The sand is used for a vast array of applications including glass making, foundries and cement – but the finer, cleaner varieties, which are difficult to come by in other areas of the world, are much sought after. “We're Australia's main supplier of sand to golf courses,” Macka explains, “and we're now looking into exporting our sand to holiday resorts for the rejuvenation of beaches in places like Hawaii. This year we'll also be sending a lot of our sand to the construction industry in Sydney and beyond.”



Mack's Sand has a fleet of 10 Volvo machines that work for up to 12 hours a day, six days a week. They include six wheel loaders and four articulated haulers.



## TOUGH ON FINE SAND

Macka's Sand has a fleet of 10 Volvo Construction Equipment (Volvo CE) machines that work for up to 12 hours a day, six days a week. Macka owns six wheel loaders – the newest of which is an L220 from Volvo's new G-Series range. He also has four articulated haulers – two A35Es and two A40Es.

"Working on fine sand all day can have a huge impact on machines – but Volvos are by far the best ones for the job," Macka explains. "Despite the difficult ground conditions, Volvo machines are durable, and that increases their resale value when it comes to selling them. That's another important factor when we decide which machines to buy."

Machine operator, Ross Lavis, who has worked for Macka Sands for 13 years operating wheel loaders, says: "I have tested other brands, and Volvos are by far the best on fine sand. The L180E that I operate has 23,000 hours on the clock and is still going strong – the torque ratio and anti-slip wheels mean it performs well and gain great traction on loose sand. And you don't need to rev the engines hard, either, meaning increased fuel efficiency and longevity of the engine."

Macka's Sand has worked with Volvo's Australian national dealer CJD Equipment for many years and built up a strong business relationship. "Especially in recent years, CJD Equipment has really listened to our requirements and helped us source the equipment we need and maintain it," says Macka. "Machine downtime has a huge impact on our business because we have 150 trucks and dogs (large trailers) coming in to be filled everyday – and if one of our machines is down, it's difficult to keep up with demand. The service we receive from CJD is fast and reliable, which is exactly what we need."

## OPERATOR + COMFORT = PRODUCTIVITY: A SIMPLE EQUATION

The new G-Series wheel loaders are an evolution of previous generations, enhancing the existing operator features that have made Volvo loaders so popular over the years. With safety at the heart of all Volvo products, this is also a key feature in the design. Large expanses of glass in the driver's cab give a commanding view to the front and sides, while the machine's rear-facing camera completes the 360° view around the machine. The ergonomics of the controls inside the cab are designed around the driver to maximize safety, efficiency and ease of use.

Steve Morrison, an operator who's been with Macka's Sands for four years, says: "When I started here, it was the first time I'd operated a Volvo – and it is luxurious compared to other brands. It has heaps of power and no blind spots, making operation easy so we can concentrate on getting the job done –



From left to right: Steve Morrison, Robert Mackenzie (Macka), Ross Lavis, Glenn Bowtell.

**"WORKING ON FINE SAND ALL DAY CAN  
HAVE A HUGE IMPACT ON MACHINES -  
VOLVOS ARE THE BEST FOR THE JOB."**

and enjoying it! Climate control, a radio, a comfortable seat and sun shields are added benefits that we take for granted in the 40°C (104°F) heat of the Australian sunshine."

Macka himself is only too aware of the importance of operator comfort, having been a machine operator for many years before starting up his own business. "If the operators are comfortable, then work is more enjoyable," he says. "If they want to come to work every day then they're productive – and if they're happy, I'm happy."

Paul Carleton, a hauler operator who's been with Macka's Sands for 16 years, says: "Volvo is way in front of its competitors when it comes to driving on sand. Other brands are too heavy, but the A40E haulers are fast and more fuel efficient. Not to mention how comfortable they are – I still have energy even after a 12-hour shift." **VA**

Text: Holly Brace





**The land of great mystery and beauty prepares for economic growth and an open outlook on the world.**

“MYANMAR LIES AT THE HEART OF ASIA, WITH INDIA, CHINA AND SOUTHEAST ASIA ALL ON ITS DOORSTEP.”



Thousands of miles of highways should be developed: Myanmar lies at the heart of Asia.

**M**YSTERIOUS MYANMAR HAS EMERGED FROM YEARS OF HIBERNATION, AND VOLVO CONSTRUCTION EQUIPMENT IS WELL-PLACED TO BENEFIT FROM THIS BEAUTIFUL LAND'S NEW SPIRIT OF OPENNESS.

“Quite unlike any land you know about,” the famous British writer Rudyard Kipling wrote of Myanmar, formerly known as Burma, hinting at both its mystery and great beauty.

For several decades Myanmar has remained hidden, an undiscovered jewel off the beaten tourist track. But now it is opening up to the world and revealing its awe-inspiring natural beauty and a fascinating heritage.

Whether it's Mandalay, the spiritual heart of the country, with its regal past and breathtaking architecture, the tranquil Ayeyarwady River that winds through much of the country, or the spectacular Shwedagon Pagoda in Yangon, once described by another writer, Somerset Maugham, as 'glistening with its gold, like a sudden hope in the dark night of the soul,' Myanmar has much to offer.

Its 54 million people are peace-loving and friendly, as befits a nation whose entire history and culture has been shaped by Buddhism. It is also a land rich in gems, minerals and natural resources, and now, with a more open outlook on the world, a growing economy.



Build it and they will come is the theory behind the huge investment in the country.

“VOLVO CE NEEDS TO BUILD ON ITS LEADING MARKET POSITION AND PENETRATE SEGMENTS OUTSIDE OF MINING.”

#### **UNPARALLELED**

The pace of change is unparalleled. As President Thein Sein told Time Magazine recently, “We are in the midst of an unprecedented period of transition from military to democratic government, from armed conflict to peace and from a centralized economy to a new market-oriented economy.”

As part of this transformation, new infrastructure is essential and the government has been proactive in building roads, airports and seaports, while hotels and new office blocks are starting to spring up in many of Myanmar’s major cities.

Eberhard Wedekind, EVP Sales and Marketing for Volvo Construction Equipment, recently traveled to the country and was enormously impressed with its culture and beauty. He also witnessed firsthand the booming optimism that underpins the nation’s recovery.

“The construction industry sees enormous potential in Myanmar, with customers highlighting road building and general construction as particularly promising. It’s not hard to see why thousands of miles of highways should be developed: Myanmar lies at the heart of Asia, with India, China and Southeast Asia all on its doorstep. It is in the ideal position to act as a gateway from east to west, north to south.”

## AMBITION

In some respects the country's ambition is outstripping its growth. In 2005 the government moved the nation's capital from Yangon to Nay Pyi Taw, which has now become one of the fastest growing cities on earth. However, on Eberhard's visit he noticed that the 16-lane highway built to transport people to and from the airport was entirely devoid of other cars. "We had an American architect," was the laconic explanation he was given by the Volvo dealer principal, H.K. Aliwarga.

The capital's new airport told a similar story: built to world-class construction standards, and boasting enough capacity to handle multiple international flights each day, at present it services only a few small aircraft flights and a handful of passengers.

"Build it and they will come is the theory behind such a huge investment," Eberhard says. "But for the time being it is a ghost airport, one as empty as the 16-lane avenues leading to the president's office and the ministries."

Soon they will come, and Myanmar will be prepared. As will the Volvo dealer, Win Strategic, which represents Volvo Trucks, Bus and Penta in the region. Its success has won Volvo CE a good market position in the country

## OPPORTUNITIES

"Volvo CE needs to build on its leading market position and penetrate segments outside of the mining," Eberhard adds. "In particular it should use the strength of the dual brand strategy."

The country's economy is forecasted to grow by 5.4% in 2013, as a result of foreign investments in oil, natural gas and power, as well as growth in construction, tourism and exports. However, the mining industry has started to slow down, though Volvo CE has still managed to retain its number one market position. Despite that, there is no chance of the company resting on its laurels in the coming years.



Eberhard Wedekind, EVP Sales and Marketing for Volvo Construction Equipment

"WE'RE GOING TO START FOCUSING MORE ON CONSTRUCTION IN ANTICIPATION OF A BOOM OCCURRING OVER THE NEXT FEW YEARS."

"We've done well in the mining segment in the past, but we don't want to be complacent," says Roger Tan, vice president of the Southeast Asia Hub. "We're going to start focusing more on construction in anticipation of a boom occurring over the next few years."

"The country is opening up, and the opportunities are there," he adds. "However, growth will be slow, as there are a lot of areas, like the legal and banking systems, that haven't been brought up to speed yet. Still, the potential for Volvo CE is huge. But we have to look at ways to boost our presence in Myanmar over the long-term." **VM**

Text: Dan Waddell



# Application Inspiration

Another innovative solution from  
Volvo CE, puts the dealer at the  
heart of the process.



**V**olvo machines have a unique appeal and identity. But what of those potential customers who seek the cutting-edge technology and rock-solid reliability of a Volvo machine, but for whom it doesn't meet their individual requirements?

It could be they work in the forestry industry or need a machine for industrial material handling, or drilling and piling rigs. Previously, if they wanted a Volvo machine as a base, their only option was to seek out a third party on their own to customize the machine to their needs without Volvo support.

This came with a risk: if the machine suffered any damage or developed a problem after any modifications, the customer was not protected by the same comprehensive warranties that non-customized machines proudly boast.

But the Special Applications Solutions Partnership has transformed that. Now customers are able to tell their dealers of the modifications they require, and their orders are made according to the strict technical guidelines of all other Volvo machines, and guaranteed the same standard of aftersales care for which Volvo Construction Equipment is renowned.

***"In the event of any damage to modified vehicles, the customer is protected because modifications have been made in accordance with all the necessary Volvo CE guidelines."***

Esbjörn Fritzell, global director of Business Development at Volvo CE





***"We are pleased to have increased our capacity to provide special application solutions on a global scale but there is much more to be done."***

Esbjörn Fritzell, global director of Business Development at Volvo CE

## **PARTNERSHIPS**

To guarantee this quality, Volvo CE has lived up to its reputation for innovation by forging partnerships with experienced companies, such as Sweden's CeDe Group, which are able to carry out the customization work to the high standard the company demands.

Esbjörn Fritzell, global director of business development at Volvo CE, explains why: "The machine is as good as if it came directly from Volvo CE. So the customer knows he is getting all the benefits of one of our machines, as well as the protection, safety and peace of mind that comes with an authorized Volvo CE product. In the event of any damage to modified vehicles, the customer is protected because modifications have been made in accordance with the all the necessary Volvo CE guidelines, given that only authorized partners are utilized. Dealers are no longer doing the modifications at their own risk."

There are also multiple benefits for Volvo CE and the customer. The partnership encourages dealers to become involved as solutions providers and offers them greater opportunity to compete in the marketplace. By offering these applications, it also allows Volvo CE dealers to supply a wide range of specialist

machines and gain a foothold in markets where traditionally they have not had a large presence, such as demolition and recycling.

## **STREAMLINED**

One example is an 'amphibious' application, which allows an excavator with specially adapted tracks to work in water, almost like a boat. Such machines are in use globally. The new structured approach is also far more streamlined than before, when different dealers in different regions offered their own solutions, rather than a unified, global approach.

Of course, the reliability of the partners that Volvo CE uses is paramount. CeDe Group was the first, and based in the port of Malmö, Sweden. It was able to ship customized machines to dealers around the world. But in order to serve the customer even better by shortening lead times, Volvo CE has extended the scheme to include partners across Europe, North America and Asia.

## **POTENTIAL**

Among the new partners are HTMC in Korea, which specializes in forestry and demolition equipment; Young Corp. in the USA, which operates in the industrial material handling

***"Sometimes the customer might want to change some details, and we might visit the factory where the machine is being constructed."***

Knut Grepperud, Sales Manager Recycling / demolition, at Volvo Maskin AS.




sector; TSA in Indonesia (forestry); EIK in Malaysia; BECO in the Netherlands; and Fliegl in Germany.

"We are pleased to have increased our capacity to provide special application solutions on a global scale, but there is much more to be done. We are currently in talks with a potential new partner in China and are also looking to increase our presence in South America," Esbjörn adds. "Pioneering new concepts and finding innovative solutions every day – the future of Volvo Special Application Solutions has never been brighter."


Knut Grepperud, sales manager of recycling and demolition at Volvo Maskin AS, a dealer in Norway, has experience of the benefits of the Special Applications Solutions program. Many of his customers need a customized machine that can do the job quickly and efficiently.

"The customer is involved from the beginning. We talk with them and explain different solutions in the customized segment, and we look at their drawings and designs. Sometimes the customer might want to change some details, and we might visit the factory where the machine is being constructed.

"We work closely together and we always follow up and modify the solution if necessary. It is seldom that we have a customer who is unhappy because they are involved all the way from the start of the process to the finished product – though of course then we need to follow up with service and aftersales solutions, which is key to continued customer satisfaction." 

Text: Dan Waddell





'Give  
a man  
a fish,  
teach a  
man to  
fish...'



When Linck Máquinas, Volvo Construction Equipment's distributor in Brazil, launched 'Projeto Pescar' (the Fishing Project), the idea was simple; To offer professional qualifications and opportunities to disadvantaged young people from low-income families. The result, almost 40 years later? A string of international awards – and thousands of lives transformed.

In 1976, Brazilian businessman and entrepreneur Geraldo Tollens Linck was appalled after witnessing a robbery carried out by group of youths on a defenseless man. "Like me, several people saw everything, but we were all petrified by the violence and did not know what to do. Then the police came and I left, crushed," he would recall.

Linck, founder and president of Linck Máquinas, the Volvo Construction Equipment (Volvo CE) dealer in the states of Rio Grande do Sul, Paraná and Santa Catarina, found that his sense of shock was rapidly replaced by a determination to act. When he recounted what he had seen to a group of his colleagues the next day and

wondered what could be done to help solve the problem, somebody pointed out that they were not in the business of dealing with social problems. When he insisted, however – "It's no use saying that the problem is always the government's and not doing anything about it," – another person suggested: "Well, we could teach these kids vehicle mechanics. That's something we know all about."

That was 37 years ago. As of May 2013, "Projeto Pescar" as the initiative became known, has helped a total of 21,747 students to graduate through its various courses. More than 3,500 volunteers help coordinate the project, alongside 36 employees. Eleven companies make up



Geraldo Tollens Linck



Luiz Carlos Matte, president Linck's management council

the foundation, including Volvo, and it operates 142 branches in Brazil, 27 in Argentina, one in Paraguay and one in Angola.

#### UNITING THE LOCAL COMMUNITY

More extraordinary still, close to 80% of students get jobs soon after concluding their courses. The project, however, almost failed to get off the ground. Back in 1976, a group of workers at the Volvo dealership met up at 7am each day before work, trying to find ways of getting the local community to unite behind the idea. They soon found Sister Maria José Trevisan, who would help them recruit the first group of students, but other people were less encouraging. Luiz Carlos Matte, the current president of Linck's management council, recalls: "We contacted a number of public agencies asking for help and guidance in establishing a social action targeted at disenfranchised young people and that, preferably, lived close to our company.

"Our intent was to provide some of these young people with an opportunity by offering them a profession and then later referring them to the work market, in an attempt at preventing them from becoming criminals.

"But it was so discouraging, given the absolute lack of interest manifested by the people contacted and who raised so many bureaucratic barriers, that we nearly gave up. Instead we decided to act on our own, without the participation or help of any government agency."

#### SUCCESS BY WORD OF MOUTH

The first class at the Linck Technical School began on the morning of March 8, 1976, attended by 15 boys and teacher Jair Fick. They would graduate with a professional technical qualification in December of the same year.

Word soon got around. The students told their friends, and their

families talked to their neighbors. The number of students quickly grew from 15 to 30. A little later, that number doubled again, to 60. By then, up to 200 candidates were applying for a place on the course. Linck and his board colleagues, meanwhile, were enthusiastically recommending the idea to their business contacts – and to their rivals – while offering help and advice if they chose to back a similar project.

All the while, the curriculum evolved. Instead of just mechanics, student started to benefit from Portuguese grammar and language classes as well as courses in teamwork and leadership. As in official schools, graduation day became a special and highly valued ceremony, involving family members and guests.

In 1991, "Projeto Pescar" received the Eco Award in education from the National Association of American Chambers of Commerce in São Paulo, inspiring the establishment of new schools.



The foundation attracts 3,100 new students a year.

## A STRING OF AWARDS


“After opening three schools, we decided to establish the Foundation Projeto Pescar, with the specific purpose of promoting the creation of new schools by entrepreneurs from around the country while also providing permanent and ongoing support to existing ones,” Luiz Carlos Matte recalls. “The name was inspired by the Chinese proverb that says, ‘Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.’”

More awards followed, including recognition from the World Bank and Foundation Getulio Vargas, the UNESCO (\*) Institutional Seal, the “Child Award” from Foundation Abrinq (\*\*), the “Top Human Being” and the “Citizenship Award”. Geraldo Tollens Linck passed away in 1998, leaving behind “what was possibly the most important work in his life, which made him very proud and gave him a lot of joy”, according to his partner and friend Luiz Carlos Matte.

Today the foundation, which was officially established as an independent entity in the year 2000, attracts some 3,100 new students each year. Or, as Matte puts it: “The work of the Foundation was, and continues to be, brilliant. The result has been wonderful and very gratifying for all who participate or have participated in this initiative.”

Even after transferring oversight of the program to an independent foundation, Linck Maquinas continues to play an important role in Projeto Pescar. Not only is Matte, one of Linck Maquinas’ principle directors, leading the Projeto Pescar foundation, but Linck continues to support the program today with its most important commodity: real life experience. A total of three Linck locations house classroom locations for Projeto Pescar classes. These educational units, located at the Eldorado do Sul, Palhoça and Curitiba branches, each turn out 20 newly trained mechanics per year.

*“The result has been wonderful and very gratifying for all who participate or have participated in this initiative.”*

The unit in Curitiba, Paraná, is the newest of the Projeto Pescar locations, and started operating just this year as part of the distributor’s branch expansion project. The new classroom is bright and airy. Through glass panels in the classroom, students can see the activities of the branch as they complete their studies, giving them a sense of what it is like to really work at a Volvo Construction Equipment distributor. 

Text: Luiz Carlos Beraldo & Tony Lawrence  
Photos: Tania Meinerz & Linck Maquinas

(\*)United Nations Educational, Scientific and Cultural Organization <http://www.unesco.org>

(\*\*) Fundação Abrinq pelos Direitos da Criança e do Adolescente / Save the Children –



**Supreme fitness, tough challenges, environmentalist – this Volvo man is the whole package.**

“THE TRIAL RUN AS PART OF THE SANYA CREW WAS THE MOST UNFORGETTABLE EXPERIENCE OF MY LIFE.”



Guo spent six months training hard in the UK.

**I**MGUO ‘GUO’ XIANG SPENT EIGHT YEARS AT SEA AS A MERCHANT SEAMAN. BUT EVEN A MAN WHO HAS SAILED AS MANY MILES ON THE WAVES AS HE HAS IS AMAZED AT THE IMMENSE CHALLENGE FACED BY THOSE WHO ENTER THE VOLVO OCEAN RACE.

When the opportunity presented itself to try to get a crew involved with 2011/12 race, Guo, now senior manager in aftermarket development in Volvo Construction Equipment China, based in Shanghai, seized it. He was nominated as a crew candidate for Team Sanya, based on his seafaring experience, supreme fitness and his ability to work as a member of a close-knit team.

Guo is a top-class swimmer who has won several events, so he was more than capable of coping with the physical rigors of training for an ocean race. He spent half a month training in Hamble, United Kingdom, before sailing on a trial run from Hamble to Dublin as part of the Team Sanya crew.

It was his first time on a sailing boat, and he was immediately greeted with speeds of 25 knots on the 38-hour trip to Ireland. Despite being thrown in the deep end, Guo coped admirably but was relieved to arrive in Dublin where he enjoyed another first – a well-deserved pint of hand-pulled Guinness with his crew mates!



The Volvo Ocean Race is considered the toughest sailing event in the world.

“GUO WAS NOMINATED BASED ON HIS EXPERIENCE, SUPREME FITNESS AND HIS ABILITY TO WORK AS A MEMBER OF A TEAM.”

#### **UNFORGETTABLE**

“It was the most unforgettable experience of my life,” he says. “There was wild wind and cold sea water to deal with – it was tough but very enjoyable.”

Guo was not selected for the final crew because of his lack of yachting experience, but he still enjoyed every second. “It was a really good experience, and it changed my outlook. The training is hard; no one can survive such an arduous race without such training. It is the toughest sailing event in the world. But it is my dream that I can enter the 2014-2015 Volvo Ocean Race.”

In the meantime, Guo has more than enough to occupy him on land as part of Volvo Construction Equipment (Volvo CE). He joined the company in 2004 as a service engineer, became a regional service manager and is now in charge of dealer aftermarket software and hardware development. Volvo CE, he says, “is not the only the company I work for but the family I love.”

“I was attracted by the Volvo culture from the beginning. I love blue: the blue of sea water, the blue of the Volvo logo; I believe that my blood is also blue. It makes me so proud to work for Volvo, and to work with my team in Volvo CE Region China.”

## PRIDE

A major source of pride for Guo is the new 400Plus Hotline, specially designed for the Chinese market. Customers from all across the country can call 24 hours a day, seven days a week to book a service, order parts and check on the progress of a delivery. The service also offers 'real time' SMS tracking: the customer receives a text message updating him on the estimated time arrival of a technician, or the availability of parts in different provinces.

How did the idea come about? "In China, customers and their machines sometimes move from one state to the other if there is a business opportunity," Guo replies. "A customer complained of not being able to contact the local dealer in a new place because he didn't know the contact number. That's when we thought, "Why can't we set up a nation-wide platform with one unified hotline number, to serve the customers wherever they are?"

"Once we had the approval and the support of China's management team, we made it happen in just six months, from design to successful roll out."

The result has been a drastic reduction in frustration for Chinese customers, who were occasionally left wondering how long a machine might be out of action. It also revitalizes the entire service process so that everyone, from customer to technician to dealership staff, knows just where things stand at any given time.

## INTEGRATED

"Aftersales service plays an important role in customer satisfaction and customer retention, and it generates loyal customers," says Guo. "To meet or surpass the expectations of the customers in a vast and emerging market like China is not an easy thing. The 400Plus Hotline is an integrated aftersales service that makes Volvo stand out from the crowd. You could say it's the whole package."



"AFTERSALES SERVICE PLAYS AN IMPORTANT ROLE IN CUSTOMER SATISFACTION AND CUSTOMER RETENTION, AND IT GENERATES LOYAL CUSTOMERS."

Now that the 400Plus Hotline is up and running, new challenges await Guo. He is to become part of the project management team in charge of the service leadership project, which aims to enhance Volvo dealers' aftermarket competitiveness and profitability in China.

Away from work, when he's not in the swimming pool, Guo likes nothing more than spending time with his young daughter and his family, cooking and drinking Tieguanyin tea. He is also a keen environmentalist who cycles to work rather than drives, and avoids drinking bottled water. ❖

Text: Dan Waddell






# VOLVO OCEAN RACE HITS THE ROARING FORTIES

For 40 years, the Volvo Ocean Race has been creating heroes and legends on a racetrack that encompasses the world. To celebrate this important milestone, we look back on a race that remains a unique challenge and sport's ultimate test of character.





***“Safety, the welfare of the crew and the integrity of the boat are foremost in our thinking.”***

When 17 boats carrying 167 brave pioneers left Portsmouth on September, 8th 1973 it was the start of a great adventure in more ways than one. The TV images from that race are quite startling now, revealing as they do big wooden boats loaded up with beer and wine, fridges packed with meat and big roomy interiors. Some teams even found room for an onboard cook!

But if any of the participants thought they were in for a leisurely cruise they were quickly disabused when the boats headed into the freezing Southern Ocean. “You can’t fear what you don’t know,” said Grant Dalton, who would go on to make the first of his six appearances in 1981-82 with *Flyer*. “They wouldn’t have had any idea how cold they were going to get, how wet they were going to get.”

It was by no means certain that the race would ever be run again, but Whitbread’s continued backing for 1977-78 and improved safety measures helped secure another big fleet that ensured the race’s future.

Great names such as Peter Blake, Robin Knox-Johnston, Skip Novak, Pierre Fehlmann, Clare Francis and Alain Gabbay were among those competing in that second edition, and so was newcomer Conny van Rietschoten, the Dutch sailor who brought a new professionalism to the race.

The race was clearly changing fast. Lionel Péan secured victory for France in the next edition at the age of just 29. In 1989-90 we got the first all-female team, skippered by Tracy Edwards, and at last a victory for Peter Blake, who swept the board with *Steinlager 2*. Four years later it was Grant Dalton who enjoyed the last success of the old maxis before the new breed of Whitbread 60/Volvo Ocean 60s really took over, with the Americans Paul Cayard and John Kostecki joining the roll call of winning skippers.

Kostecki’s 2001-02 victory on *Illbruck Challenge* was the first under the race’s new owner, and the Volvo Ocean

Race has continued to innovate ever since. The Volvo Open 70 era produced stunning speeds in boats that felt frighteningly overpowered to many on board, with Mike Sanderson on *ABN Amro One* and Torben Grael on *Ericsson 4* clinching overwhelming victories before Franck Cammas emerged on top with *Groupama 4* in the most recent edition in 2011-12 – the closest contest in the history of the Whitbread/Volvo Ocean Race.

Sometimes it feels like everything has changed in the race in these past 40 years, from the design of the boats to the professionalism of the sailors to the freeze-dried food to the onboard communications systems.

But while the race looks very different on the surface, the essence is still the same, and no one underestimates how tough it is for those involved in competing.

For the next two editions, organizers have introduced the new one-design Volvo Ocean 65, a move that will not only reduce the costs for competing teams but also shift the emphasis from making the boats as light and quick as possible to making them more robust and less prone to mast breakages, while an escape hatch in the transom has become compulsory.

“Safety, the welfare of the crew and the integrity of the boat are foremost in our thinking,” said race director Jack Lloyd recently.

When the 2014-15 edition starts in Alicante on October 4 next year, the sailors will be battling everything the oceans can throw at them for weeks at a time. They will face numbing cold and searing heat, they will be scared at times and dog-tired all the time, and all in pursuit of a simple goal – to be part of the fastest team around the world.

There is no prize for winning beyond the Volvo Ocean Race Trophy - just the honor of joining that unbroken thread of great sailors who have given everything, sometimes to the point of obsession, to secure victory in sport’s ultimate adventure. **IV**

## RECORD EVOLUTION:

The Whitbread 60, Volvo Ocean 60 and Volvo Open 70 yachts that have broken the World Sailing Speed Record for the maximum distance covered by a monohull within a 24-hour period in previous editions of the Whitbread and Volvo Ocean Race are:



**1994** Intrum Justitia, 64ft, Lawrie Smith (GBR) - 428 nautical miles at an average of 17.83 knots



**1997** Toshiba 64ft, Dennis Connor (USA) - 434.4 nautical miles at an average of 18.1 Knots



**1997** Silk Cut, 64ft, Lawrie Smith (GBR) - 449.1 nautical miles at an average of 18.71 knots



**2002** Illbruck, 64ft, John Kostecky (USA) - 484 nautical miles at an average of 20.16 knots



**2005** Movistar 70ft, Bouwe Bekking (NED) - 530.19 nautical miles at an average of 22.09 knots



**2005** ABN AMRO ONE, 70ft, Mike Sanderson (NZL) - 546.14 nautical miles at an average of 22.75 knots



**2006** ABN AMRO TWO, 70ft, Sébastien Josse (FRA) - 562.96 nautical miles at an average of 23.45 knots



**2008** Ericsson 4 70ft, Torben Grael (BRA) - 596.6 nautical miles at an average of 24.85 knots

## COURSE DISTANCES IN NAUTICAL MILES:

1973-74: 27,000	1997-98: 31,600
1977-78: 26,780	2001-02: 32,250
1981-82: 26,095	2005-06: 31,250
1985-86: 26,740	2008-09: 37,000
1989-90: 32,018	2011-12: 39,270
1993-94: 31,975	2014-15: 39,895

## WINNERS:



**1973-74**  
Boat: Sayula II  
Skipper: Ramón Carlin (MEX)



**1977-78**  
Boat: Flyer  
Skipper: Conny van Rietschoten (NED)



**1981-82**  
Boat: Flyer  
Skipper: Conny van Rietschoten (NED)



**1985-86**  
Boat: L'Esprit d'Equipe  
Skipper: Lionel Péan (FRA)



**1989-90**  
Boat: Steinlager 2  
Skipper: Peter Blake (NZL)



**1993-94**  
Boat: New Zealand Endeavour (Maxi class)  
Skipper: Grant Dalton (NZL)



**1993-94**  
Boat: Yamaha (Whitbread 60 class)  
Skipper: Ross Field (NZL)



**1997-98**  
Boat: EF Language  
Skipper: Paul Cayard (USA)



**2001-02**  
Boat: Illbruck  
Skipper: John Kostecky (USA)



**2005-06**  
Boat: ABN AMRO ONE  
Skipper: Mike Sanderson (NZL)



**2008-09**  
Boat: Ericsson 4  
Skipper: Torben Grael (BRA)



**2011-12**  
Boat: Groupama 4  
Skipper: Franck Cammas (FRA)



**“Probably the  
best construction  
truck in the world”**



**The new Volvo FMX truck was launched at Bauma this year. It set a new standard for robustness, handling and driver comfort. Claes Nilsson, Volvo Trucks President, described it as ‘probably the best and toughest construction truck in the world’.**

The launch of this new model further strengthens Volvo Trucks, offer in the heavy construction segment. The first FMX was introduced in 2010 and now with this next generation there is a totally redesigned cab interior, new air suspension system, raised ground-clearance and Volvo Dynamic Steering – a world-first innovation designed to significantly improve maneuverability. “We have improved every detail of the truck – large and small – which is vital for ensuring the truck’s robustness and handling in the toughest conditions,” says Nilsson.

“The new FMX bases its personality on its honest, capable image. What you see is exactly what you get: A fully equipped tool, one hundred percent ready for hard work. This construction truck is like a genuine action hero – it just looks better and better after it’s been hard at work,” says design director Rikard Orell.

#### **SUPERIOR VISIBILITY, DRIVER POSITION AND CONTROLS**

The cab’s low position relative to the chassis offers a convenient entry and exit as well as a superior close-up visibility. This reduces the risk of vehicle damage and improves safety for people working in close proximity to the truck.

“Servicing has been made easier thanks to the fact that all the headlamp functions as well as the indicators and the sharply raked daytime running lights are built into the same housing,” says Rikard Orell. “The customer can increase lighting performance even further by specifying bi-xenon lights.”

The cab interior in the new Volvo FMX has been entirely redesigned, with the focus on giving the driver a comfortable and ergonomic workplace. The cab has more space for the driver and more storage options compared with the previous model, and the driver benefits from a better driving interface and greater seat adjustment.

Downloading the new mobile application “My Truck” extends the driver’s ability to survey and operate some of the



***“The rear air suspension offers considerable comfort and agility both when the truck is loaded and when it is empty.”***

truck's functions from a distance. The app includes remote start for the heater as well as the possibility to check alarm, door lock and fluid level status.

#### **SUPERIOR HANDLING IN ALL CONDITIONS**

Several innovations boost its efficiency and off-road capability. The driver can steer a heavily loaded truck without the slightest effort thanks to a new technology: Volvo Dynamic Steering.

An electronically controlled electric motor attached to the steering gear is the big technological innovation. The electric motor works together with the hydraulic power steering and is regulated thousands of times per second by its electronic control unit.

“At low speeds the electric motor replaces the driver's muscle power. Instead the driver can relax and steer without any effort and strain,” Rikard explains.

#### **NEW REAR AIR SUSPENSION**

Chassis and driveline have been designed to enhance the trucks' productivity. “This is a high-priority area for our construction customers. The new air suspension is tailor-made for construction work without compromise,” explains Peter Frleta, chassis expert at Volvo Trucks. He adds “The rear air suspension offers considerable comfort and agility, both when the truck is loaded and when it is empty.”

The suspension system features automatic ride-height control, and with ground clearance of 300 millimeters (12 inches), the result is excellent get-you-there ability.

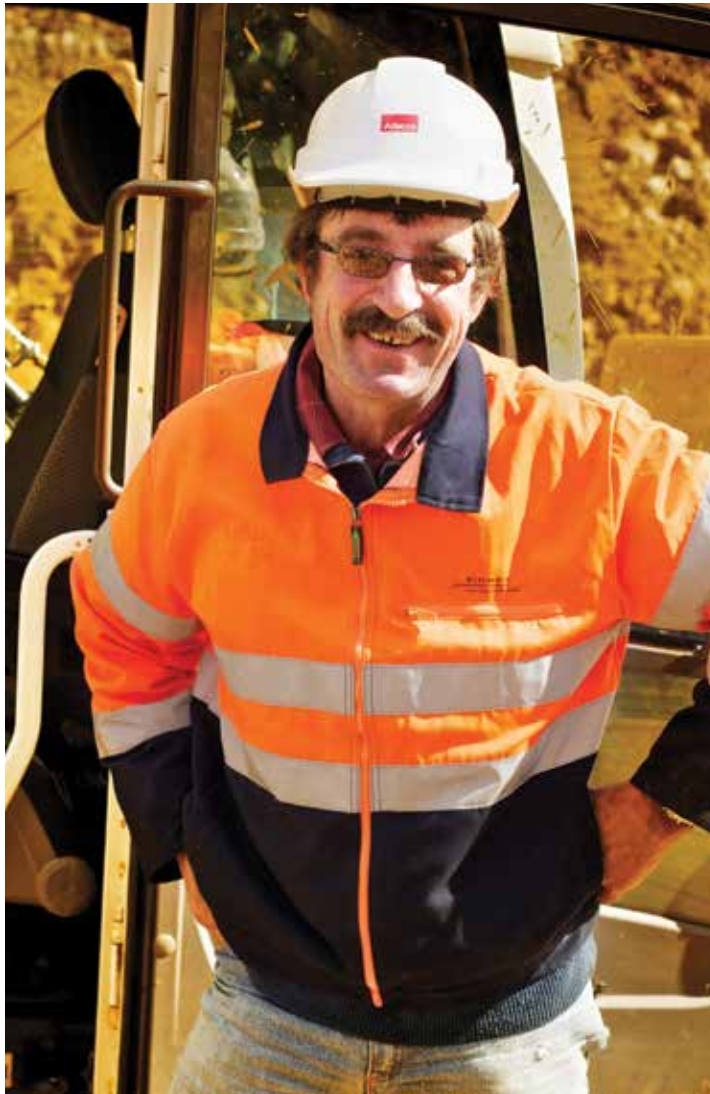
#### **I-SHIFT COMBINED WITH IMPROVED ALL WHEEL DRIVE**

Volvo's unique I-Shift transmission is highly efficient when maneuvering at low speeds and can also be combined with a driven front axle. Another new I-Shift feature is a longer oil-change interval (450,000 km / 280,000 miles). The front wheel drive system has been further refined to deliver increased off-road capability and endurance.

The new Volvo FMX is available with a choice of 11- and 13 liter Euro 6 engines. The D13 has power outputs from 380 to 540 horsepower, while the D11 spans the range from 330 to 450 horsepower. For markets outside Europe, engines adapted for Euro 3, Euro 4 and Euro 5 will be available.

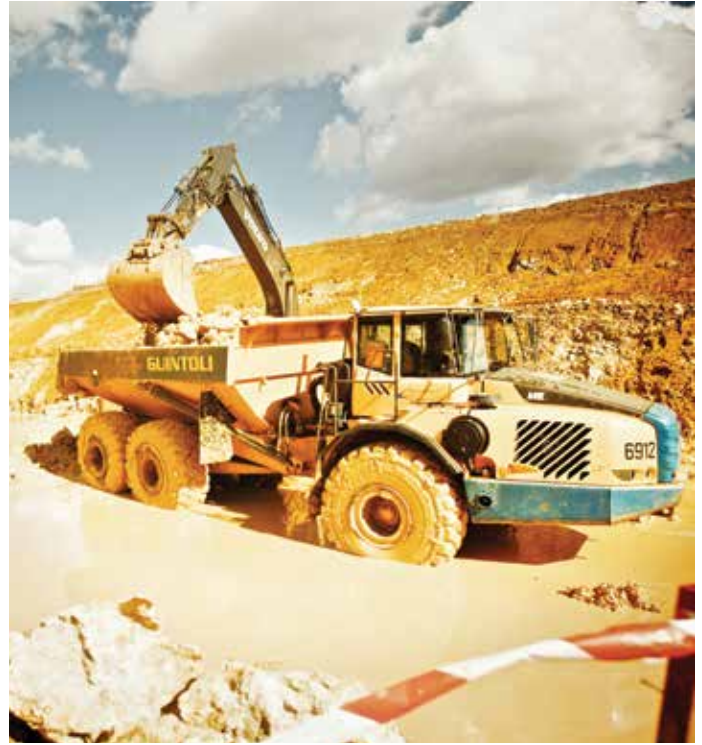
In order to meet the Euro 6 requirements, the engine has been equipped with a non-cooled EGR system for recirculation of exhaust gasses. This optimizes exhaust gas temperature and NOx levels for efficient after-treatment.

Claes Nilsson is probably right, that with so many enhancements, the new Volvo FMX can claim its place alongside the best construction trucks in the world. **IV**



**300 kilometers, two men, one passion.**

"I'VE DRIVEN OTHER ARTICULATED HAULERS, BUT THEY'RE NOT THE SAME AT ALL."



At times the mud has been thigh deep!

**O**N THE FACE OF IT, THIERRY QUINTARD AND MICHEL MARTIAL DON'T HAVE MUCH IN COMMON. THEY BELONG TO DIFFERENT GENERATIONS. THEY COME FROM DIFFERENT REGIONS IN FRANCE. THEY DON'T DO THE SAME JOB. AND ONE OF THEM HAS CLOCKED UP TEN TIMES MORE WORK EXPERIENCE THAN THE OTHER.

One is a soccer fan. The other would rather go hunting for deer and wild boar with his friends. It's hard, indeed, to imagine them sitting down and sharing much of a conversation.

Except it transpires, that they share the same construction work site, near Poitiers in west central France. And they also share a passion. A passion that's big, yellow and carries the brand 'Volvo'.

Michel Martial is unequivocal. "It's just a personal opinion, but I think Volvo construction equipment is the best," he says. "And I also think all my colleagues here would agree with me. I've driven other articulated haulers, but they're not the same at all.

**'I'D STEAL A VOLVO IF I HAD TO!'**

"We didn't get to choose which brand of machine we would operate here, but I would have stolen one of the Volvo machines when nobody was looking if I had been given anything else!"





The Volvo machines are working in some very challenging conditions and coping very well.

“WE DIDN'T GET TO CHOOSE WHICH BRAND OF MACHINE WE WOULD OPERATE HERE BUT I WOULD HAVE STOLEN ONE OF THE VOLVO MACHINES WHEN NOBODY WAS LOOKING IF I HAD BEEN GIVEN ANYTHING ELSE!”

Quintard – a 53-year-old excavator operator – and Martial, aged 25, are both working on what is regarded as the largest construction site in Europe, the South Europe Atlantic (SEA) high-speed rail link, which will run just over the 300 kilometers (186 miles) between the cities of Tours and Bordeaux.

The rail link will accommodate France's TGVs – ‘trains grande vitesse’, or ‘high-speed trains’ – which can reach cruising speeds of around 320km per hour (199 mph).

The two-and-a-half-year civil engineering project is made up of a long list of awe-inspiring statistics. It will cost some 7 billion euros, create thousands of jobs and involve removing 46 million cubic meters (1624 million ft<sup>3</sup>) of soil (with 30 million (1058 million) then re-used). There will be 415 new bridges, as well as 10,000 meters (10,000ft) of viaducts.

The scheme is also up against a tough deadline, with the construction work due to be completed by September 2014, in time for the track to be laid before extensive testing is carried out.

#### **NO PROBLEM FOR VOLVO**

Snow and rain at the start of 2013 has not made the job any easier. Just outside Poitiers, a train tunnel is being carved

out of the earth by a fleet of excavators. To allow for this, a motorway has had to be re-routed. When the work is completed, the motorway will be moved back to run directly over the new tunnel.

At the time of writing, the work site is, in effect, no more than a deep chasm made up of churned mud and clay. It would be impossible to walk through it – the mud would come up to your thighs in places. Martial's A40E, though, has no such problems.

"They're very powerful," he says. "They can get in and out of areas full of mud and slush and water much better than other machines. The other big plus for me is that it is more comfortable. You feel the bumps a lot less when you go down into a crater.

"And that really matters – you can quickly end up with a backache in this line of work."

#### 'A JEWEL OF A MACHINE'

Quintard, meanwhile, is a recent convert despite having worked for 25 years in the industry. His 30-tonne EC300D, with its Tier 4i (Stage IIIB) Volvo D8H engine producing 11% more power and 18% more torque than its predecessors, has been a revelation to him.

"I had never operated a Volvo before this job. For me, it's a jewel; I really like it. It's much more responsive and easier to control than the others I've been in. And it's very powerful: it rips through any soil or rock.

"I've worked a lot in the roads and utilities sector before, on housing and building sites, but never on such a big scale as this and I'm really enjoying the experience – I'm learning something new every day.

"There are a lot of machines in a confined area here, so visibility is a big thing as well. The sight lines on the Volvo machine are very good, which is important when you have to have eyes in the back of your head!"

Quintard and Martial have two years of secure work ahead of them. Quintard is especially grateful. Life has not been that kind to him in recent years, and he was out of work for a while before earning his current contract. "This has been fantastic for me," he says.

Martial admits that, in a perfect world, he would have played professional soccer – for Real Madrid. That said, at one stage he was thinking of becoming an accountant.



"THE SIGHT LINES ON THE VOLVO MACHINE ARE VERY GOOD, WHICH IS IMPORTANT WHEN YOU HAVE TO HAVE EYES IN THE BACK OF YOUR HEAD!"

Getting out in the fresh air and driving articulated haulers – "Volvo articulated haulers," he stresses again – is now the way forward for him. **VM**

Text: Tony Lawrence

Photography: Julian Cornish Trestrail

# KEEP IN TOUCH STAY INFORMED

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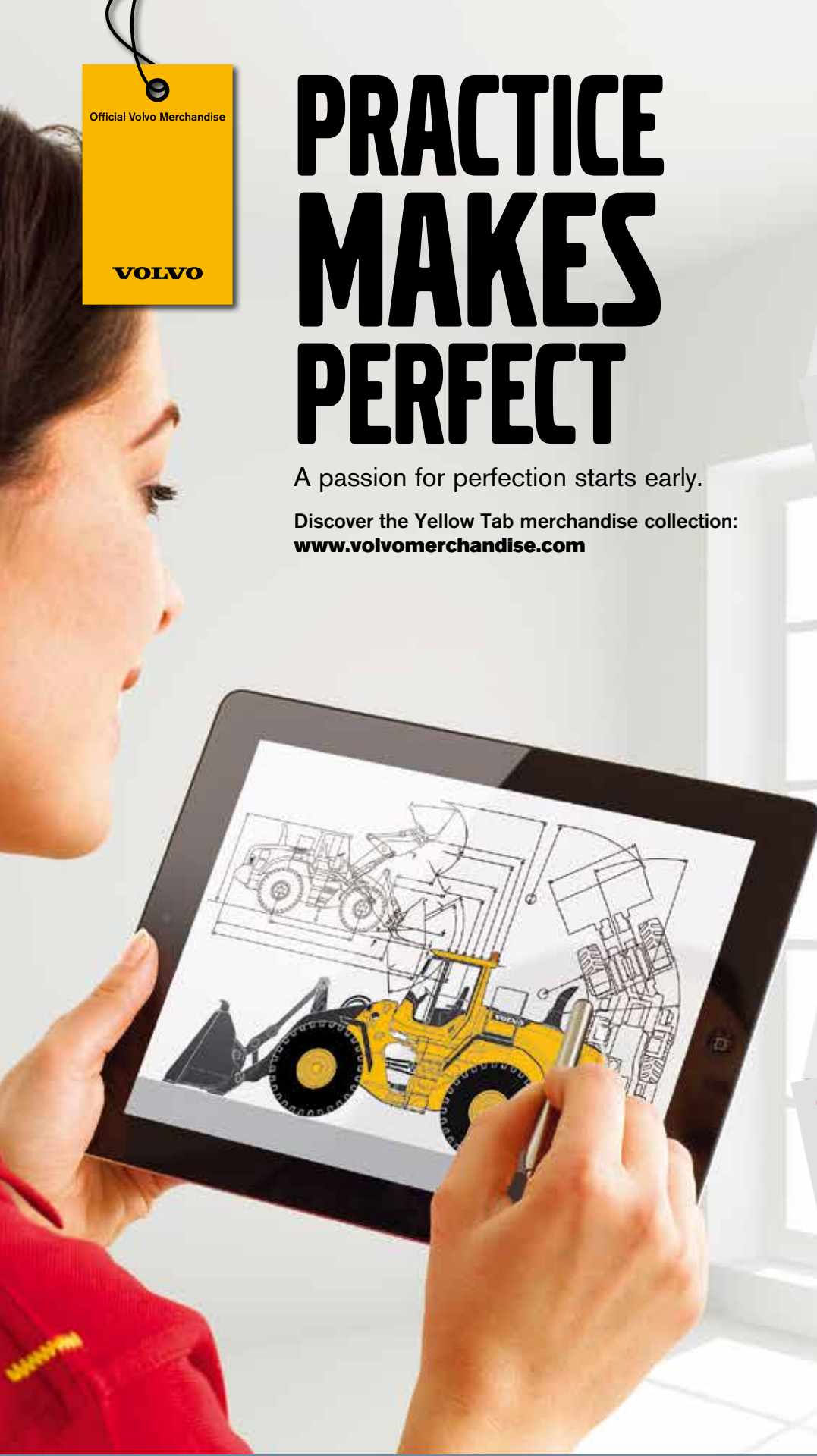
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