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WELCOME


Lloyd D. Nabors Demolition of Texas, United States, commands a fleet of close to 20 Volvo excavators - page 24

Construction professionals from around the world were drawn to Las Vegas for this year's CONEXPO-CON/AGG

With contractors in the northern hemisphere gearing up for the start of the 'building season', why would they give up their time to go to an exhibition? Well, the bright lights and fun of holding it in Las Vegas is certainly an attraction, but the real reason is that CONEXPO is one of the construction industry's biggest and most important events – you just have to be there. And Volvo Construction Equipment was there in style, joining more than 2,500 exhibitors in showcasing our new machines, intelligent operator systems and an advanced monitoring service for the North American dealer network. More importantly, we got to meet you, our loyal, knowledgeable and valued customers. If you couldn't make it to Vegas, our coverage of the show starts on page 10.

Amid all the hot dogs and competition that CONEXPO always displays there was another side to this year's show – that of cooperation. Climate cooperation. A key message was the need for the industry to come together on climate action to meet carbon-reduction targets. Volvo CE is trying to lead the way by hosting the Construction Climate Challenge (CCC), a long-term initiative to drive sustainability across the construction industry value chain. Our article on page 38 from a CCC conference held in the UK reports on how reducing the carbon footprint of infrastructure construction doesn't just reduce carbon output, but also reduces costs and improves performance. Often accused of being slow to adopt new thinking, our industry is now leading the way in finding innovative clean ways for society to live. On page 16 you can read about the sustainable 'smart' city that is rising in the deserts of Qatar.

Efficient machines need to be operated efficiently. So it is important that equipment operators are properly trained so that fuel consumption is reduced, which in turn lowers emissions and cuts costs, thereby protecting the environment. One of the largest construction companies in Europe deploys Volvo simulators in a unique teaching program and on page 6 you can read about how trainee operators are put through their paces before being let loose on real machines.

Elsewhere in this issue of the magazine is our usual offering of articles from around the world that feature our customers doing amazing things with their Volvo machines. See these stories come to life in video reports available on the *Spirit* website and *Spirit* app for phones and tablets – available free from the App Store and Google Play. 



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VS62 EN
Photograph: © Gustav Mårtensson

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ON THE COVER
Volvo CE celebrates 50 years of articulated hauler production with a gold-painted A40G hauler

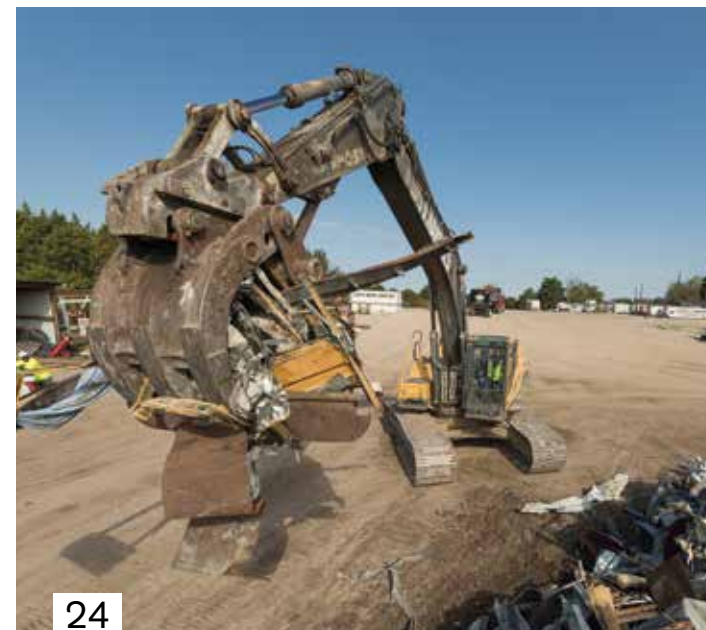
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TRAINING THE NEXT GENERATION

One of the largest construction companies in Europe deploys Volvo simulators in a unique teaching program

by Nigel Griffiths / photographs by Heinz-Joachim Petrus

Volvo simulators add a new dimension to learning



Students also practice on real machines

Located in the small, rustic town of Bebra in Hessen, Germany, is an 88,000-square-meter site packed with all types of construction equipment from giant excavators to mini diggers. This is the 'learning center' of STRABAG, one of Europe's largest construction companies.

It is unique as a dedicated location for training the next generation of construction machine operators. And this year, the STRABAG training process has moved to a new level with the introduction of two state-of-the-art Volvo simulators.

The simulators, developed for Volvo in Sweden, seat a student in the mock cabin of an excavator, wheel loader or other heavy machine, and through giant video displays, movement, vibration and sound, give him or her a virtual experience of operating the machine in a practical work situation.

NEW DIMENSION

"The Volvo simulators have added a new dimension to the way we work," says Firas Ajouri, head of training at the STRABAG center. "We can now center our basic training programs around the simulators before putting the students on real machines."

"We acquired our first simulator earlier this year and were so impressed that we bought a second one," Ajouri continues. But not content with just the simulators, the STRABAG



Firas Ajouri

center has recently taken delivery of a Volvo EWR150E wheeled excavator for the students to practice on.

"Our students are able to go straight from undertaking excavating projects on the Volvo simulator, to sitting in the cabin of the real thing."

The simulators are extremely realistic and can tip, roll and shudder as the operator maneuvers the heavy 'virtual' load.

"They are much more relaxed on the simulator and can make mistakes without expensive consequences," says Ajouri. "On the simulator they work through a range of construction work sequences, some up to three hours long. If they make a mistake, they do it again, with no damage incurred. We have a wide range of projects for them to work on during their three-year training at the center." →



Simulators can be quickly reconfigured



The next generation of machine operators

In the past, the students would start their training on mini excavators. “We found that they would be overly cautious on the machines for fear of making a mistake. The simulators can be quickly reconfigured from being an excavator to become a wheel loader, and it also trains them to think of issues such as best work practice and fuel consumption,” Ajouri continues.

“Also, thanks to the new simulators we can now provide uninterrupted training. Whatever the weather outside, whether it is summer or winter, we can work on perfecting the skills of our future machine operators.”

Ajouri came to Germany from Syria 30 years ago and joined the local construction equipment firm, Hermann Kirchner, where he pioneered the development of the training center from the ground up. Eight years ago, Hermann Kirchner was acquired by STRABAG and since then Ajouri has spearheaded a major expansion of the training center with the support of top management. It has moved to the current site with training rooms and excavation practice sites and is currently being expanded to include an onsite residential block with capacity for 140 beds.

STRABAG describes the Bebra complex as a ‘learning center’ (Konzern-Lehrwerkstatt - K LW) as it provides a

THE SIMULATORS ARE EXTREMELY REALISTIC

broad range of tuition covering road construction and ground engineering as well as construction machinery, vehicle fleet management, mechatronics and industrial mechanics. The center has four trainers and currently some 120 trainees.

It also has sports facilities (soccer) for the students and a gymnasium. Bicycles are provided to give them full mobility in the area. “We want the students to feel fully integrated and part of a big team or family. This way they study better. Sport is part of this process. They all learn together,” Ajouri stresses.

INVESTMENT

STRABAG sees the K LW center as an investment in the future. “STRABAG’s top managers come here to personally see the work we are doing,” Ajouri explains. “The company realizes that, although it is one of the best in Europe today, to retain this position it has to invest in its key resource – its operators.”

The K LW center takes students from all over Germany and Austria. It has even welcomed 14 enthusiastic refugees to train for jobs in the construction industry. Overall, more than 90% of students are offered employment within STRABAG after the three-year training period.

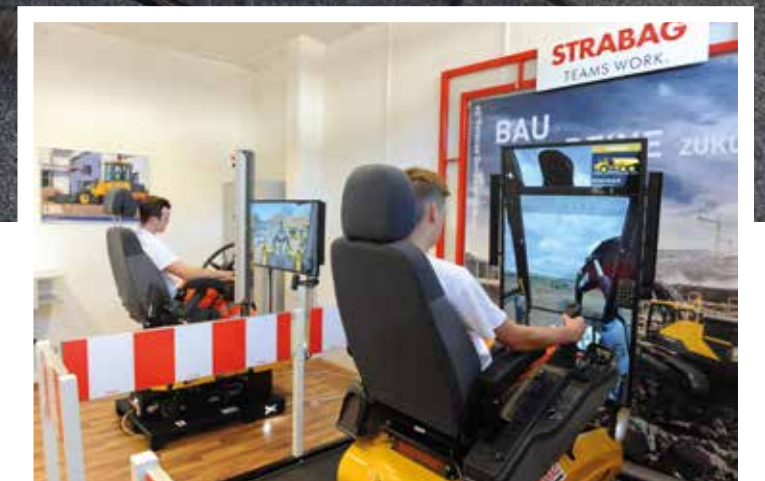
“What is tremendous for us is that the simulators allow us to observe the students at work via a remote screen. The analytics show us which tasks they are good at and where practice is needed. The simulators also help identify the type of machine they are most suited to operate: for some it may be an excavator, others might be better suited to wheel loaders or road pavers. One way or another, we find their niche.”

Sascha Dick, after sales manager at Volvo CE distributor Swecon, says that STRABAG is an important customer for Volvo CE and buys some 60 Volvo machines each year, mostly compact wheel loaders. These machines are used across Europe.

STRABAG operates the only apprentice school of this scale in Germany, says Dick. He expects the training programs to have a big impact in the years to come.

“Training new generations of operators for increasingly complex construction equipment is vital. There is much infrastructure work planned around Europe which will be in great need of properly trained operators,” he says.

Volvo CE’s Global Key Accounts Director in Germany, Thomas Stemper, is delighted with the choice of Volvo at the K LW center: “Working on Volvo simulators and machines at the beginning of their career will allow trainees to appreciate the quality of the Volvo machine. In their future careers, they could be our product ambassadors.”



Leading the way in construction

STRABAG AG, headquartered in Cologne, is part of the Austrian consortium of STRABAG SE, one of the largest European construction groups, with some 73,000 employees worldwide. It is active in Austria and Germany and in all countries of Eastern and South-East Europe, as well as in Canada, Chile, Africa and the Middle East.

It is a major partner in many construction projects around Europe. It helped build Ireland’s 675-meter-long Limerick Tunnel under the River Shannon. It is also involved in the UK’s Crossrail project and is a consortium partner, alongside Skanska and Costain, in Britain’s future HS2 high-speed rail extension. Operating worldwide, it has helped to build China’s high-speed railway track, too, in a project building 80 kilometers of tunnels, 280km of bridges and 140km of earth structures.

DO ALL THE TALKING WITH VOLVO ENDURANCE TEETH



Take a bite out of heavy-duty projects with Volvo Endurance Teeth. The optimized design offers the perfect combination of durability, high quality engineering and rock-solid strength to tear through the tough stuff, absorbing the impact so you don't have to. Compatible with any brand of excavator, Volvo Endurance Teeth complement the existing Volvo Tooth System (VTS) and come in three profile choices; guaranteeing the right fit for the task. To ensure every job is successful, Volvo Endurance Teeth are made of high quality wear resistant material and undergo an extensive manufacturing process to meet the renowned Volvo quality standards. Find out how Volvo Endurance Teeth can increase productivity and performance for a maximum return on investment.

http://opn.to/a/SP_DealLoc_E

VOLVO ENDURANCE TEETH

Volvo Construction Equipment



VOLVO CE AT CONEXPO 2017

Volvo Construction Equipment introduced new machines and new operator systems, and launched an industry-leading active machine monitoring service at the show in Las Vegas, the largest construction industry event of its kind of the year

A team of more than 150 knowledgeable Volvo experts were on hand to help visitors to CONEXPO 2017 get the most out of their visit. Volvo Construction Equipment sister brands Volvo Trucks, Volvo Penta, Terex Trucks, SDLG and Volvo Financial Services also showed off their latest wares, underlining the Volvo Group's power to

provide complete customer solutions. Volvo CE is supporting its North American dealer network by introducing ActiveCare Direct, a telematics monitoring service that cuts through the data mountain and condenses it to just the facts customers need to know about how their machines and operators are performing. →

Main photograph: © Somchai (Getty)



TOUCH-SCREEN TECHNOLOGY

Volvo CE's CONEXPO 2017 show theme 'Push Boundaries' placed emphasis on how innovation and new technology can make a tangible difference to customers' livelihoods. With access to interactive stations, visitors were able to learn more about Volvo Co-Pilot, a system that offers a range of intelligent machine services – Load Assist (above), Dig Assist (below), Compact Assist and Haul Assist – that help operators deliver higher quality outcomes. →

STAND AND DELIVER

With 40,000 square feet (12,000m²) of indoor (above) and outdoor exhibition space as its canvas, Volvo CE was able to field a fleet of 28 machines. Visitors to the Volvo CE stands could leave CONEXPO-CON/AGG 2017 knowing how the combination of its machines, coupled with the latest operating technology and machine management, can make an important contribution to lowering the cost of doing business.



MEET THE STARS OF OUR SHOW

Volvo CE unveiled new wheel loaders at CONEXPO 2017 as part of a machine display that included compactors and a paver, skid and track steer loaders, and a range of excavators and haulers, including the new concept HX-02 autonomous, battery-electric load carrier.

The new 60-ton/55-tonne Volvo A60H meets a growing demand for an articulated hauler with larger capacity. The machine's higher payload – a 40% increase on Volvo's A40 models – significantly lowers the cost-per-tonne ratio for hauler customers. The new size is a viable alternative to rigid dump trucks and construction trucks when operating on soft, uneven or steep roads, allowing loads to be shifted more quickly. With long service intervals and minimal maintenance requirements, the A60H also boasts many of the features of its well-respected predecessors.



The brand-new Volvo DD140C (pictured) and DD120C are the next generation of double-drum asphalt compactors, featuring a range of intelligently designed features delivering enhanced performance and productivity. These fuel-efficient machines, powered by the premium Volvo Tier 4 Final engine, offer unobstructed sightlines down to the drum for maximum safety and rolling precision. Thanks to dynamic drum forces the asphalt compactor cuts vibration system start-up power in half, enabling the roller to operate more effectively with the engine, even at high altitude. Additionally, these models can be equipped with Volvo's Compact Assist intelligent compaction technology, developed specifically for Volvo compactors.



50 GOLDEN YEARS

Volvo CE'S celebration of 50 years of articulated hauler production was represented by a giant gold-painted A40G hauler (below), auctioned off in February. Proceeds of the auction are in aid of Skills USA/Skills Canada to support technical education to fill the need for more skilled workers in North America. The golden hauler was joined by the stars of hit reality TV show Gold Rush (Discovery GO), signing autographs and giving tips on the best way to pan for gold. YouTube 'letsdig18' sensation Chris Guins (right) reported from the stand, adding to the 87 million views that show him and his colleagues operating heavy construction machinery.



The 83-ton/75-tonne Volvo EC750E crawler excavator comes with fuel efficiency innovations, delivering increased productivity to ensure maximum return on investment. The EC750E features a reinforced heavy-duty boom and arm built from high-strength tensile steel, designed to work in harmony with the machine to achieve maximum uptime and performance. For added protection and reliability even in severe conditions, steel strips are welded under the arm, and there is a built-in, heavy-duty plate on the underside of the machine. Designed for demanding applications, customers will achieve almost non-stop production, along with improved fuel efficiency, without any loss of performance in most operating conditions.



A SMART CITY IN THE DESERT

Lusail, in the State of Qatar, is setting an example of how to build cities of the future



With a rapidly increasing population, the State of Qatar, located on the northeastern coast of the Arabian Peninsula, is growing as never before.

In response to the need for more housing, the smart and sustainable city of Lusail is rising like an oasis in the desert.

Some 50,000 years ago, this harsh environment, where hot desert winds meet the ocean, was the home of nomads. A lot has happened since then, and now Qatar – host of the 2022 FIFA World

Cup – is a prosperous hub of commerce and cultural exchange in the Middle East, with exceptional economic growth and major advances in human and social development.

As part of the country's 'Vision 2030', the entirely new city of Lusail – designed to support 250,000 residents – is now under construction. Located on the coast in the capital city Doha's northern development corridor, it will cover about 20% of Qatar's growing population. With a new

CREATING A SUSTAINABLE LEGACY

take on sustainability in architecture, infrastructure and construction, the aim is to set an example of how future cities in the Middle East will be built.

Lusail's head architect Abdulrahman Al-Ishaq says: "Basically, we are building a city from scratch. We started this project with 38 square kilometers of desert landscape and sea. Although Lusail is a new city, it is also regarded as an extension of Doha. Sustainability was always the vision of Lusail, so we designed and planned it that way. This minimizes the environmental footprint significantly and

creates the foundation for a sustainable legacy. It's a highly responsible task as future generations of Qatar will question if we did it correctly when we had a chance to do it."

COOL SYSTEMS

A major part of what makes Lusail a smart city is its sustainable facilities and utilities. One important utility is the district cooling system, whereby four district stations and 17km of piping make it one of the world's largest →



Essa Mohammed Ali Kaldari (left) with colleague in Lusail City

Interview with Essa Mohammed Ali Kaldari, CEO Lusail Real Estate Development Company

Describe the main goals and purpose of Lusail City.

Lusail City is Qatar's most visionary projects and it is where Qatar's imagination comes to life.

The development of this state-of-the-art city contributes directly to the Qatar National Vision 2030.

It started off as a main entertainment destination, however, this promising project will also help expedite the development of Qatar's infrastructure sector, as well as contribute to the expansion of greater Doha to the North.

What were the biggest challenges when planning Lusail city?

One of the challenges that we first faced is how to develop a city which is 38km² in size, and at the same time have the infrastructure ready during the development phases.

How have these challenges changed over the years?

The main challenges remain constant, however, with the right expertise and resources at hand, we can confidently say that they are being adeptly managed and dealt with.

How does Lusail city contribute to the development and growth of Doha and Qatar?

Lusail City is one of Qatar's most ambitious development projects and iconic smart cities. It is set to be one the country's landmark cities that will place Qatar on the regional and international tourism map, as well as significantly contribute to the development of Qatar's infrastructure sector.

The comprehensive arena will feature residential, commercial, and retail opportunities, as well as accommodate a range of community needs, including schools, medical facilities, entertainment centres, and shopping malls.

A modern smart city with a vision, the overarching aim of the project is to improve and enhance the quality of people's lives by raising the bar and setting new standards for community facilities and services.

In creating this fully-functioning smart city that will serve as a new extension in a country that is experiencing significant population expansion, Lusail City represents nothing less than a singular, unifying vision for the future of Qatar.

central cooling system. In numbers, this will save an estimated 675 million kilograms of carbon dioxide annually.

Developers usually include several air-conditioning units in their designs to cool buildings. With the district cooling system, they only need to connect a duct system, because the cooling system provides cool air and cool water centrally. This greatly limits the harmful side effects on the ozone layer that would otherwise be experienced when using many small electrical units, Al-Ishaq explains.

Another unique feature in Lusail is the 24km waste pipe network that has been laid underneath the city. Human waste is easily disposed of through this advanced and highly efficient network of pneumatic or vacuum tubes.

To reduce traffic from garbage trucks in the densely populated areas, this network offers a new and innovative way of disposing of waste. The pipe network is connected to the buildings, which then goes directly to the garbage and recycling treatment plants outside the city. "This saves about 70 tonnes of waste per day," says Al-Ishaq.

The hot summers and dry, unforgiving desert climate of the desert makes water a scarce resource. Nothing can go to waste, not even the sewage. Treatment plants receive the sewage produced in Lusail and reuse it in the district cooling system. It is then returned to the buildings as cool air or water. It is also used to water the city's open green spaces and irrigate the surrounding landscape.

BREAKING GROUND

In 2009, the first excavators started to shape the ground on which the 21st century smart city will rest. Scheduled to be finished in 2019, the work goes on day and night to reach the deadline. Some 45,000 workers are on site each day, a joint operation that requires planning, trustworthy equipment and good management.

Volvo equipment has played a big part in the project, too – during certain phases of the work, more than 150 Volvo machines were on site at the same time, sometimes 24 hours a day based on a three-shift schedule.

"We are just one of hundreds of companies involved in working in Lusail, which requires good management," says Hadi Kaii, machine owner and Volvo CE customer at EIB Qatar. "At the beginning of this project, we were using 32 machines, but now, having reached the final stages, 22 or 23 machines are operating all the time. We have several ongoing projects in different areas of Qatar, but the Lusail area



Hadi Kaii on site



WE ARE BUILDING A CITY FROM SCRATCH

Lusail City construction site

should be an example of how future development should be conducted."

Kaii's crew is currently working on a site in the heart of Lusail, clearing room for the foundations of buildings and underground tunnels. However, digging through the porous sandstone is not a walk in the park. The walls cave in easily, so the excavators must be equipped with breakers to prevent them from sliding. Being situated close to the Persian Gulf also makes construction difficult since groundwater constantly floods the holes with sea water. Although these factors pose risks on the construction site, the intense heat is the toughest challenge.

In the summer, temperatures can rise above 50°C. To be able to work, all excavators must be equipped with air-conditioning units to ensure the operators are not at risk of heatstroke while operating heavy machinery, and to avoid putting lives at risk. "Working in this climate also means staying hydrated and taking regular breaks to prevent fatigue," explains Kaii, responsible for ensuring compliance with safety procedures.

Lusail will not only become a new city, but it will also represent a new mentality and lifestyle for its residents. A light railway system, underground pedestrian tunnels and even a water-taxi system will reduce the use of cars for commuting residents. As part of Qatar's Vision 2030, the goal is to combine a modern lifestyle with traditional values and culture.

"We encourage people to walk in Lusail by creating this healthier, cleaner environment – a city where you can live, work and play at the same time. The challenge here is basically to try to bring people together as part of this new lifestyle. We aspire to be a realistic sustainable city, something that we aspire to and hope to repeat and implement in other places," concludes Al-Ishaq.

Visit the Spirit website or download the Spirit app for the video report



Senior architect Abdulrahman Al-Ishaq

FACTS ABOUT LUSAIL

250,000 new residents in 2020

The State of Qatar's "Vision 2030" includes the construction of an entirely new city. Lusail is considered to be part of the northern development corridor of Doha and will account for about 20 per cent of Qatar's growth in population.

Annual saving of 200,000 tons of carbon dioxide emissions

Lusail will be equipped with one of the world's largest central cooling system. With 175 kilometres of piping, and four centrally located stations, cool air and water will be supplied to the centrally located buildings in the city, greatly limiting the use of smaller AC units.

24 kilometres of waste pipes

A unique feature of Lusail is the automated waste disposal system. Waste is conveyed through this advanced and highly efficient network of pneumatic pipes to recycling and treatment plants outside the city. Around 70 tonnes of waste that would otherwise have been transported by road is handled each day.

240 Volvo machines on site

EC210B, SD110, EC250D, EC210B, EC300D, G970, EC220D, EC460B, EC290B, EC240B, EC350D, EC360D, A40D, L120F, L150F, L150G, L150E, HB22, HB24, HB29.

REACHING NEW HEIGHTS

A demolition firm hopes its new Volvo CE high-reach excavator will raise the bar for safety standards

by Jason Strother / photographs by Dylan Goldby



Doh Moon-gil, CEO and Chairman of Sungdo Construction, studies an overhead photograph of one of his company's latest projects. The image shows the site, about 300 kilometers south of his office in Seoul, where his team is demolishing a sprawling 30-year-old hospital using the Volvo EC480E ultra-high-reach excavator, which the family run business purchased in early 2016.

"There are just some projects where a normal excavator can't get the job done," Doh says, adding that thanks to a customized 3.4-meter extension to the EC480EHR's standard 28-meter long boom, his operators will be able to bring down the 10-storey medical center more efficiently.

"We also chose this machine thanks to Volvo's after-sales service in Korea and its excellent reputation in the demolitions field," he says.

Since it was founded in 1979, Sungdo has become South Korea's leading demolition firm and was ranked 66 internationally in a 2016 magazine survey of top contractors. The company has been involved in some of the country's most high-profile demolition projects, including the clean

up of the collapsed Sampoong department store and the dismantling of the Cheonggye elevated highway. Doh Hyung-rok, second-generation in the family business, is now aiming to expand abroad, and leverage Sungdo's experiences in the growing Asian demolition market.

This is the first EC480EHR in the country. Doh Moon-gil says another reason Sungdo bought this machine is because he believes it will not only open the door to new opportunities for his company, but will also elevate safety standards to new heights for his country's demolition industry.

As the 73-year-old explains, the construction business was "the foundation" of Korea's post-war economic development, which propelled the country from one of the world's poorest in the 1950s to one of the wealthiest today. Yet he says

he feels domestic regulations have not yet caught up with global norms.

This is where he hopes the introduction of the EC480EHR into the local market can usher in a new era of job-site safety.

"Right now it is common practice in the industry to lift a conventional excavator on to the top of a building and

HIGH-REACH DEMOLITION IS SAFER FOR OPERATORS



THIS IS THE FIRST EC480EHR IN THE COUNTRY

dig down, which increases the possibility of collapse," Doh explains. "High-reach demolition is safer for operators as well as anyone else at the project site."

SAFETY

The Volvo EC480E high-reach machine was designed with safety in mind. The cabin's steel frame-mounted Falling Object Guard (FOG) and reinforced windows protect the operator from being struck by debris, while cameras on the boom, rear and sides allow for views of the entire work area.

In the tight, urban space where Sungdo's crew is taking down what is left of the patients' ward in Changwon City's old Samsung Hospital, those features have reassured everyone.

Towering way above the four-meter high, aluminum barricades that surround the 18,000m² job site, the EC480EHR swings around mounds of concrete and rebar. Its cabin performs an effortless 180° spin as the machine changes direction to make way for passing haulers which transport the roughly 400 tonnes of rubble that is removed each day.

The Volvo excavator, fitted with a three-tonne shearing tool that can slice through metal and cement, comes to a halt and Mun In-hwan emerges from the cab. The 37-year-old is perhaps South Korea's most experienced high-reach operator who says he has never felt safer while on the job than when he's controlling the machine's joysticks.

He says that over the course of his 14-year career as an excavator operator he has had "several close calls with death". As a father, he wants to feel confident that he will be able to go back home to see his son and daughter.

"Doing the work without the high-reach would be really dangerous considering how unstable this building is," Mun says.

Kim Gyeong-yong, Sungdo's job-site manager in Changwon, says that in addition to the safety features of the EC480EHR, the machine has helped speed up the demolition work. "With the high-reach, we are able to complete in seven days what would normally take 10 days," he says.

Kim adds that because this worksite is adjacent to the new Samsung Changwon Hospital and patients pass by throughout the day, minimizing the dust output is also a priority. The EC480EHR helps take care of that, too, thanks to its dust suppression system that includes up to four nozzles on the boom which spray a fine mist on to a structure's surface.

Sungdo Construction has benchmarked new demolition methods in the past and founder Doh Moon-gil says he hopes the standardization of high-reach machines will be no different. He realizes that enhancing the quality and safety of demolition work in his country will not come easy. But from his position as Chairman of the Construction Policy Committee of the Korea Specialty Contractors' Association, Doh says he is doing his best to improve standards within the industry.

"I'm advocating for the implementation of new safety regulations," he says. "Once these are adopted, the demand for more high-reach demolition machines will also increase." ㄷ



EC480EHR operator Mun In-hwan (left) with site manager Kim Gyeong-yong



Sungdo Construction left to right: President and CEO Doh Moon-Gil, Managing Director Doh Hyung-rok, Director Min Young-suk

CONTROLLED CHAOS

Increased productivity was the motive behind this Texan company's decision to opt for Volvo machines

by Carol Cassidy / photographs by Kevin Brown



Lloyd Nabors likes to tear things down. He was a young boy when he was first inspired to start his own demolition company. His father did demolition work, and Nabors helped out, starting around the age of eight. But he wanted to work on his own.

Nabors tells the story: "I said, 'I want to run a piece of equipment by myself, Dad.' He said, 'Well, when you're 10 years old, I'll let you wreck your first house.' So he turned me loose. I was running a front-end loader and I got to wreck my first building when I was 10 years old. And I just loved it."

Many years later, Nabors is the president of Lloyd D. Nabors Demolition LLC, headquartered in Hutchins, Texas, just south of Dallas. Projects have so far taken him across Texas and into neighboring states, including Louisiana, Arkansas and Oklahoma. Nabors is still very hands-on with his machines.

"I'm capable of running every piece of equipment we have. There's not a piece we own that I can't operate myself," Nabors says.

John Satterwhite is a vice president at Nabors. He says, "People like to work for Lloyd. He's on the equipment. If we're demolishing a bridge at three o'clock in the morning, there's a really good chance you'll find Lloyd on a wheel loader, loading concrete out."

COMMITMENT

Nabors says he was committed to the brand of machines he worked on as a boy. He first invested in Volvo construction equipment after talking with a friend in the excavation business.

"He said: 'You need to try these Volvos, they're good machines'. He said his savings on fuel were tremendous.

So I said, 'Well, we'll give it a shot.' So we bought one."

That was about 12 years ago. "We've been real happy with our Volvo equipment and the service we get here in Dallas. They've been awesome to us and everything's been really good," Nabors says.

Now, he commands a fleet of close to 20 Volvo excavators, including a Volvo EC460 high-reach excavator. Dealer sales representative Jarred Walker of Romco equipment recommended the high-reach machine to meet Nabors' wide-ranging job requirements. Walker

says Nabors was a pioneer.

"He was the first one in the state of Texas to buy the high reach," Walker says. The machine's flexibility was a strong selling point. With a modular joint system, the extended-reach arm can be exchanged for a digging boom as required.

"They've got it down to about a 45-minute process to do that, with one person," he continues. "That's a big deal because the old way would take two days to take the long arm off the machine. The versatility is amazing. The machine has paid for itself many times over. It allows them to go do jobs that they weren't able to do before."

Nabors Demolition company officers worked very closely with Walker and with Phil Riddle, Volvo Financial Services District Finance Manager. Riddle says he built a long-term relationship of accountability and service with Nabors over the years. The company's needs evolved as the enterprise grew, from a start-up in Nabors' garage, to employing 75 people.

Riddle says he works to be a "trusted advisor" who can guide customers into decisions that take all of their variables into account. And by sitting down for open conversations, he was able to analyze Nabors' specific needs as a growing company and craft an agreement aimed at meeting and exceeding their requirements.

ANYTHING CAN HAPPEN

Romco Equipment's Jarred Walker (centre) on site with Lloyd Nabors (left) and John Satterwhite



Lloyd Nabors commands a fleet of close to 20 Volvo excavators



Lloyd Nabors

"For any company," Riddle explains, "these are important decisions, often involving hundreds of thousands, even millions of dollars. We want customers to feel good about making a solid decision. We work to earn their trust and their continuing business."

The Nabors company decided on a fixed purchase option (FPO) lease. Nabors leases the machine and has the option to buy it when the lease is up. The sales price is worked out as part of the initial agreement, so that customers can plan ahead.

SAFE DISTANCE

In addition to the high-reach excavator's flexibility, Nabors says he appreciates its safety features. "Our long-reach excavator helps us when we have a structure that is six or seven stories tall. It keeps our operator a safe distance away. We're able to reach up and demolish a building, and we can keep away from the structure when it's falling," Nabors says.

The high-reach arm can take a shear or a hammer. This helps operators keep the job under control. "We reach up there and cut the columns. We're able to pull them down and it's very professional," Nabors says. "We used to use a wrecking ball, and it wasn't really controllable. You'd just knock a building down, and wherever it fell, it fell. We're able to control our demo much better now."

VP Satterwhite agrees that safety and professionalism are core concerns. "Texas happens to be a state where you don't need a license to perform demolition. So you might get a few more cowboys who may have a pick-up truck and a sledge hammer and they're gonna go tear down an apartment complex," Satterwhite says. "Our job is to make buildings come down, and we want to make sure we're doing it in a safe manner. We want everybody to leave the same way they came that morning."

Citing Volvo CE's demolition package, which includes safety guards over the cab front, Satterwhite says: "It protects the equipment but, more importantly, it protects the person sitting inside the cab. If a piece of rebar comes flying out, you don't know if it will go left or right or straight up. Those guards have been phenomenal for us."

The business of knocking down buildings includes many challenges that outsiders may not consider. Nabors uses drone cameras to help analyze each job site. Satterwhite says, complications take many forms.

"You don't know how a building may react all the time, especially if it's old or burnt or wind damaged from tornados. We operate with the understanding that anything can happen."

Satterwhite says the company's actual product is potential, but that can be tough to explain to kids. "It's easy for a contractor to point and say, 'Daddy built that'. We say to our kids, 'Daddy did that,' and, well, there's nothing there."

Satterwhite describes the open site where Nabors recently imploded an old football stadium. "I enjoy seeing a blank piece of ground when we're all done and it's clean and there's grass growing on it. That's something we take pride in. Now that's set up for someone to do something great. We create a place where somebody can build something new," he concludes. ☒

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LIVING THE DREAM

This Volvo CE engineer has his sights set firmly on the future

by Brian O'Sullivan

Not many people land their perfect job at the first attempt, but control systems engineer Albin Nilsson has netted one of the most interesting jobs in the construction equipment industry. With a Master's degree in engineering physics from Sweden's oldest university in his pocket, the

31-year-old has been hired to work on Volvo CE's Electric Site Project.

While most of his fellow ex-students find themselves constrained in their freedom to do things differently, Nilsson is positively encouraged to challenge the status quo, think →



Albin Nilsson in front of Volvo CE's prototype autonomous battery-electric load carrier

'blue sky' thoughts and ask how things can be improved. "It's a dream job," laughs Nilsson. "I can't imagine being less constrained – this work is at the forefront of Volvo CE and the whole industry. I'm extremely motivated by the mental challenge of the tasks themselves, but also from learning and working with an amazing team of truly innovative people."

The Electric Site Project aims to electrify one of the transport stages in a quarry – from excavation to primary crushing, transport and secondary crushing. Not only does it aim to reduce fuel consumption, CO² emissions, environmental impact, cost per tonne and total cost of ownership, but it will also improve productivity.

"It is a research project, so everything we do looks at how things are done and questions how they can be done better," says Nilsson. "You need a constantly enquiring mind and a healthy curiosity about how things are done. Even when you come up with a new solution – then you must measure, compare, compute and correct to see if even that can be improved."

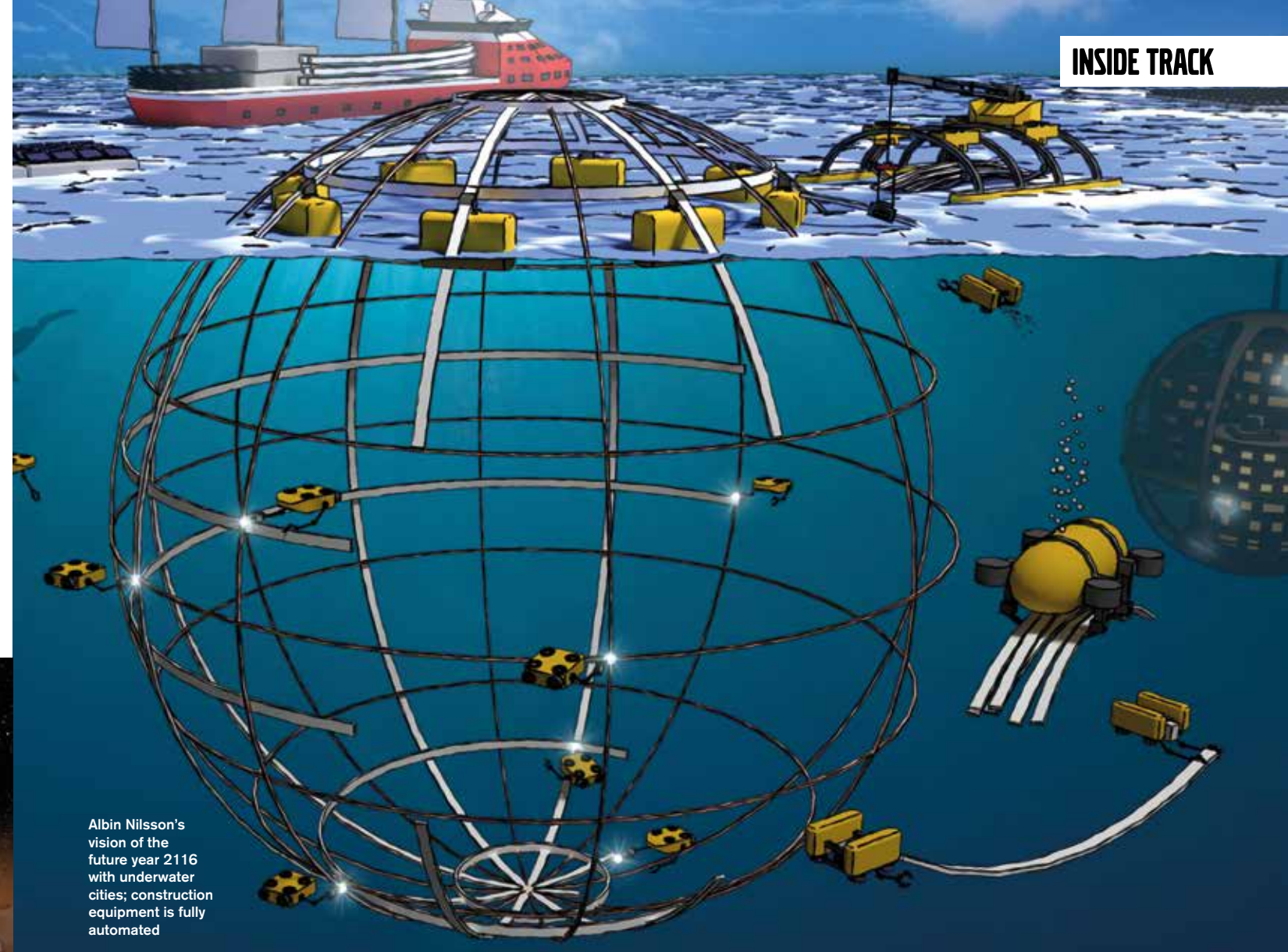
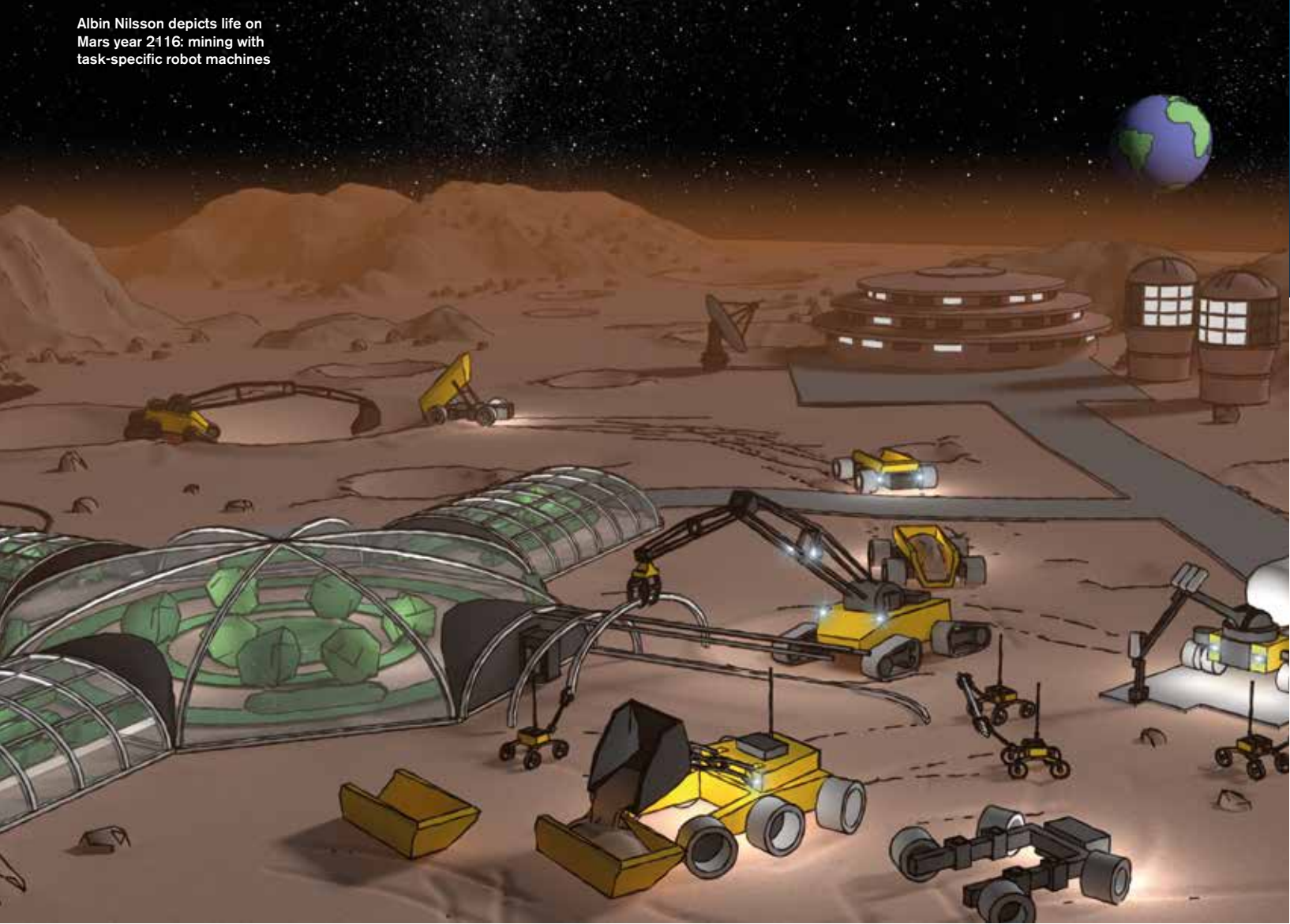
Initially working with Volvo as part of his thesis, Nilsson was hired full time by Volvo CE a year ago. Having never worked on any of the current range of Volvo machines, Nilsson's task is to help develop experimental hauler 2 – or HX2 as it is known, an improved version of the autonomous, battery-electric load carrier HX1 that was unveiled to such fanfare at last year's Xploration Forum.

"I'm just a junior member of the team," he says. "Sometimes that's an advantage in that my ideas are not constrained by experience. But I've learned that not only young people are capable of having new ideas – one of our team has almost 30 years' experience and is the most innovative person I've ever met!"

As if his day job dreaming about the future 10 years from now was not enough, Nilsson recently won a Volvo CE/LEGO® competition that asked employees to imagine how construction equipment would look 100 years from now. Not a bad artist, biking-mad Nilsson has also taught himself how to create amazing graphics using open source 3D modeling software.

WE ARE ONLY AT THE BEGINNING

Albin Nilsson depicts life on Mars year 2116: mining with task-specific robot machines



Albin Nilsson's vision of the future year 2116 with underwater cities; construction equipment is fully automated

"I like explaining complicated things in simple ways," the part-time mathematics tutor explains, simply. "I was asked to do some renderings to show how the electric site would work, and this gave me confidence to submit my entry to the competition to describe how construction equipment might look in 2116."

JUST THE JOB

The results are typically innovative. In a century from now he has us living on Mars and under the ocean. Given his day job, it is no surprise that all machines are now powered by clean electric energy, and are largely autonomous. Built using advanced materials and 3D printing, the machines are task-specific (rather than versatile, as they are today), with each robot expert at a particular job. Surprisingly, it is the space age future that Nilsson thinks the most likely to become reality.

"Other planets and asteroids are rich in minerals and mining them could make economic sense," he says. "It's harder to see the economic benefits of living under the

ocean. It's more a fun lifestyle choice – but if someone wanted it enough it could easily happen in less than 100 years."

Some of Nilsson's 3D images are extremely realistic, but he took more of a cartoon approach to the competition.

"I wanted it to look fun, not too serious or intimidating – and to have an appealing comic-strip feel," he says. "I wanted people to know it was just a dream, and didn't want it to give the impression that it was likely to become a reality any time soon."

With competition wins, compliments from colleagues and one of the most interesting jobs in the industry, Nilsson is making the most of the opportunities he has been given.

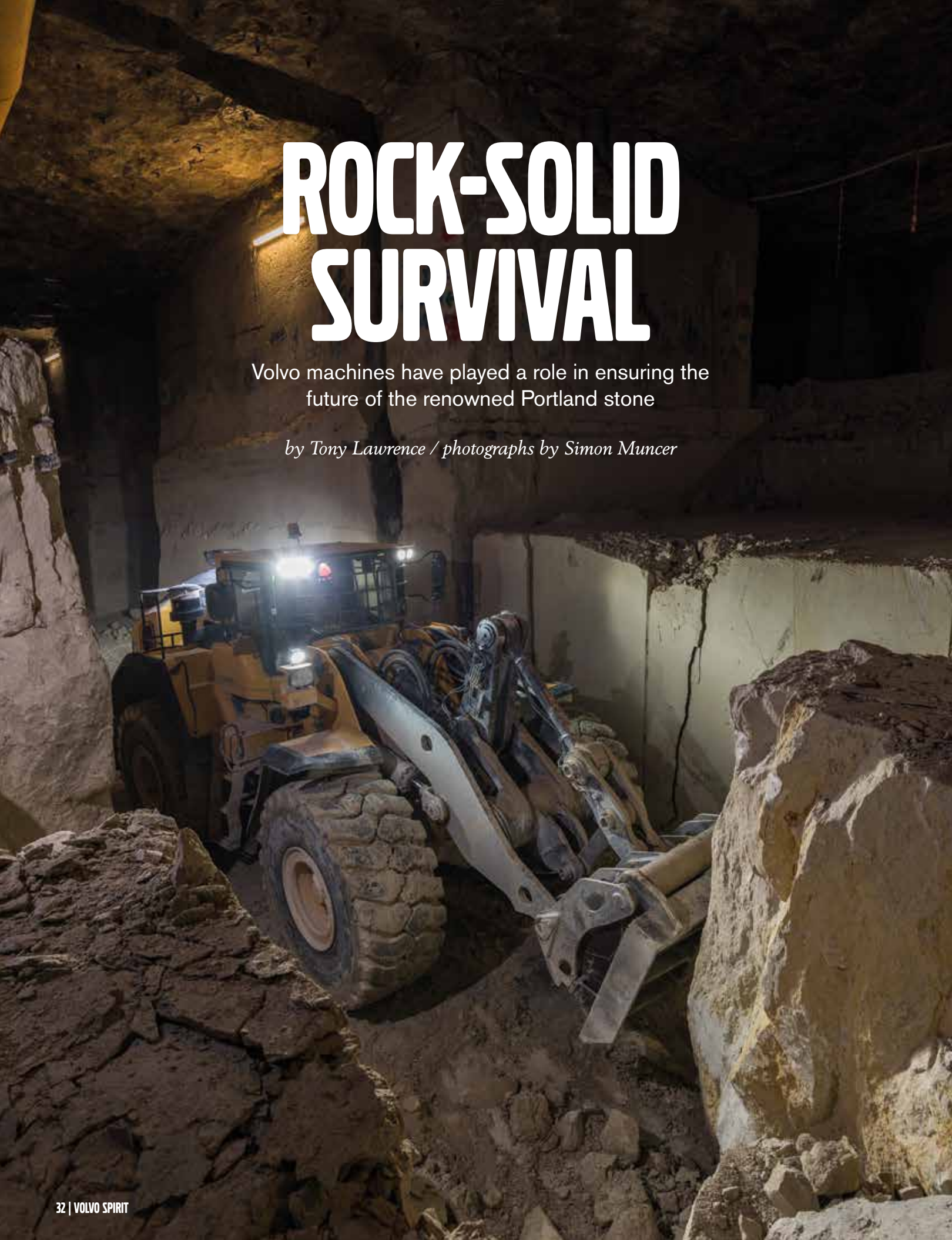
NEW TECHNOLOGY WILL CATCH US UP

"The cool thing is that these crazy ideas can all work, given enough time and research," he says. "We are helping drive the industry forwards, coming up with ideas, even if the computational power or materials don't yet exist to make them a reality. We are only at the beginning, and I'm sure new technology will catch us up as we go along. I'm part of a team that is driving towards a common goal of making the industry cleaner, safer and more productive – that's so cool."

ROCK-SOLID SURVIVAL

Volvo machines have played a role in ensuring the future of the renowned Portland stone

by Tony Lawrence / photographs by Simon Muncer



Operator Wayne Flew



Mine manager Mark Godden

London and the Isle of Portland do not, on the face of it, have much in common. London boasts a population of more than eight million, while Portland, jutting out of England's south coast, is home to an estimated 13,000 people. London covers 1,583 square kilometers (611 square miles). Portland measures 6km long and 2.7km wide (4 x 1.7 miles). London attracts around 15 million visitors annually. Portland does not!

Yet how many of those London tourists realize, as they admire such landmarks as Buckingham Palace, St Paul's Cathedral, the British Museum or St Martin-in-the-Fields, that those buildings are built with the striking white stone hewn from the country's Jurassic coast?

Portland, indeed, has provided London with much of its iconic heart. Stone has been quarried on Portland – a near-island close to the town of Weymouth and attached to the mainland by a single road – since Roman times. Renowned for its durability and beauty, the stone was being shipped to the capital as early as the 14th century and has been the subject of intensive opencast quarrying for 300 years.

Things, though, have changed. The Roman slaves and their pickaxes have gone. So have the loud detonations and clouds of dust that emanated from the quarries just a few years ago.

ADAPT OR DIE

Today, emphasis is on the Volvo attributes of quality, safety and environmental care. Quarrying is out of favor. Now the best way to produce Portland stone, it seems, is to go underground and cut it out with computer-controlled mining equipment, diamond-tipped cutting machines – and a bespoke Volvo wheel loader or two.

As Mark Godden, mine manager with Albion Stone PLC, explains: "In recent years, obtaining planning permissions for new green-field quarries has become virtually impossible due to the unavoidable environmental impact associated with opencast quarrying. Disused quarries already litter the Isle of Portland – they're now home for rare flora and fauna."

Albion Stone, founded in 1927, knew it had to change with the times. "We had to adopt a radically new approach to survive," says Godden. "It was a case of adapt or die. So in 2002 we started investigating whether we could mine rather than quarry the stone."

Godden and his colleagues visited similar sites in Europe before Albion Stone, which employs around 70 people in its mines and masonry factory, opened a trial mine to see if the plan was feasible. It was. In 2008, the Jordans mine was opened and has since been extended. Within a few years, Albion Stone had switched its entire operation to high-tech mining, with two functioning sites and a third under development.

The final chapter of the success story came two years ago when a brand new, bespoke 25-tonne Volvo L150H wheel loader made its appearance, to be followed by a second last year. →



Albion Stone's Mike Tizard cutting stone



Albion Stone's Andrew Dunbar puts a finished surface to the stone



The finished product awaits shipping

“Basically, we cut horizontal tunnels in the face of our old quarries to open the mine, and then create ‘rooms’, with supporting pillars and rock bolts in the roof. The rock faces are cut and then ‘hydro bags’ are inserted and inflated with water to help shear off the stone,” explains Godden.

“This is where our Volvos come in. Fitted with specially adapted 1500mm block forks, they prise out the blocks, weighing up to 14 tonnes, which are then transported to our factory to be cut into shape and worked on by our masons to make cladding, walling, flooring and paving products.”

PULLING POWER

Initially, Albion Stone had relied on a conventional forklift, then tele-handlers to carry out the work. “They weren’t robust enough, though. We needed a really powerful, productive and well-built machine,” Godden says. “But

there was a catch – it also had to fit into the mine.”

Godden turned to Volvo CE. He liked the power of the L150G wheel loader – but it was too big. “So I did some research and found a specialist Swedish company which said it could lower the exhaust stack and reduce the cab height by around 350mm. Volvo helped us with the modifications and we haven’t looked back.”

Volvo CE Area Business Manager Neil Cooper recalls: “It was a brilliant project to be involved in. Mark is very knowledgeable. Our technical teams visited Portland to check on all the measurements and lifting calculations and then we approached the subcontractors, who have since become one of our preferred suppliers, to make the changes and re-certify the structure of the cab.”

The first adapted Volvo machine quickly proved its superior power and traction but, more importantly, offered significant breakout torque thanks to its patented torque parallel (TP) linkage. “That led to us getting a second

THE BUILD QUALITY IS IMMACULATE

one, followed by a couple of five-and-a-half tonne Volvo excavators. They are fantastic things, do the job very well and the build quality is immaculate,” says Godden. “The first wheel loader felt like a bit of a gamble but immediately it got to work we knew it was the right choice.”

VERSATILITY

Having prised the stone blocks clear, the L150Hs carry them out of the mine to be sorted and sawn. They then load the material on to trailers heading for the cutting shops. When time allows, the two wheel loaders also clean up rock debris, using a 3.8m³ bucket. “They’re like Swiss Army knives,” says Godden.

To ensure such versatility, they are fitted with Volvo CE’s optional boom suspension system, as well as a hydraulic quick hitch to speed up attachment changes. Extra safety features for working underground include a fire-suppression system, double-pole battery isolator and a Chalwyn valve to meet mine regulations on exhaust emissions. The machines,

backed up with Volvo CE’s Silver customer support agreements, also sport counterweights to help them deal with the heaviest of loads, as well as additional LED working lights.

“I’m very pleased that we decided to go for these machines,” adds operator Wayne Flew. “I’ve been in the business for quite a few years and I reckon these machines are the best you can get for doing this job.”

Albion Stone’s new way of working has been met with universal approval by the local population – and especially by the members of the cricket club whose pitch lies directly above the Jordans mine. “The pitch is 16 meters above the roof of the mine,” laughs Godden. “Visiting teams don’t have a clue that we are working away below them while they play.”

The company’s staff are rightly proud of their work. Last year, they were taken on a trip to London to mingle with the tourists and see some of their ‘finished articles’ on public display. London and the Isle of Portland, it turns out, have rather a lot in common after all. ☒



Award winners Liberty Industrial directors Simon Gill (left) and Clinton Dick (right) with Patrick Frye of CARDEM (middle)



The Volvo simulator proves popular



Steve Ducker, KHL (left) and William Sinclair, Safedem Co, at the podium

DON'T KNOCK IT

Volvo CE sponsored the World Demolition Summit in Miami

by Katherine Brook

Hundreds of leading figures from the world of demolition recently came together in Miami for the World Demolition Summit. And with Volvo CE as the headline sponsor, delegates were encouraged to engage in a combination of educational and inspiring conference sessions, share best practices and network.

“The summit was a highly entertaining and rewarding affair,” says Walter Reeves, national sales director for America at Volvo CE. “It was great to see such a wide range of demolition professionals, from novice to expert, and of all ages and nationalities.” Previously held in Amsterdam, the Netherlands, the Miami event saw participation from the United States soar, joining the traditional strong European engagement.

AWARD

The event culminated with the much-anticipated awards ceremony, which recognizes the achievements of some of the key players in the industry. “Volvo CE’s success is built on that of its customers, and to see so many of our demolition equipment users, such as Priestly Demolition, nominated for awards at the World Demolition Summit was very encouraging,” adds Reeves. “But, among all the great and good, one company really stood out.”

Liberty Industrial, a leading provider of deconstruction services – and a Volvo CE customer of six years – was presented with the ‘Contract of the year under \$1m’ award, for the work it carried out on the Duck River Bridge Dismantling Project. The award recognizes high profile and challenging demolition projects that require an innovative approach – and a challenge this project certainly was.

The project saw Liberty Industrial remove a redundant 70-meter pipe bridge in Australia, which stretched over the Duck River at Viva Energy’s Clyde Terminal. The bridge had to be lifted onto a barge, floated down the river and delivered to the Terminal Wharf, using a combination of mobile cranes. “Careful planning and precise execution was paramount to the successful delivery of the project,” says Clinton Dick, director of Liberty Industrial. Furthermore, access to the bridge with a barge and tugboats was dictated

by tidal constraints, which left a narrow window of opportunity to access Duck River and dismantle the bridge.

“It was an accolade to see Liberty Industrial take home an award and well deserved too,” adds Reeves.

DEDICATION

But this isn’t the first-time Liberty Industrial has been recognized for its hard work and dedication to the demolition industry: the company went home with an award from both the 2014 and 2015 summits.

“To be chosen for a World Demolition Award and shortlisted for two others at this year’s event is the highest honor a company in the industry can receive. We are thrilled to be able to bring one home for three consecutive years,” adds Dick.

The 2017 World Demolition Summit is set to take place in London, England, and with the business of taking structures down continuing to look up, Volvo CE believes the summit will continue to grow. “We are committed to serving the need of the demolition contractors and will continue to use events such as the World Demolition Summit to discuss, develop and display our innovative business enhancing solutions for the sector,” concludes David Arnoldsson, global demolition sales support manager at Volvo CE. ▮

BUILDING A LOW-CARBON FUTURE

Low-carbon construction cuts costs and improves performance

by Nigel Griffiths



As well as cutting greenhouse gases (GHG) and supporting climate action, reducing the carbon footprint of infrastructure construction can save money and improve performance.

This was the message that emerged from a recent seminar held in Birmingham, UK 'Reducing Carbon in Infrastructure Construction', organized by the Volvo CE-hosted Construction Climate Challenge (CCC).

Speakers from some of the largest infrastructure projects in Europe – Crossrail, High Speed Rail (HS2), Thames Tideway, among others – disclosed how the drive to reduce GHG and their carbon footprint is delivering substantial cost savings and better performance.

“By focusing on low carbon, you get the benefit of low cost,” said Mike Putnam, President and CEO of Skanska, and chairman of the UK government’s Green Construction Board.

THINK LOW CARBON

There was much discussion on the techniques and tools to reduce the carbon footprint of infrastructure projects and drive sustainability and low carbon thinking throughout the value chain.

A key issue was the need for greater collaboration across the industry to ensure that carbon-reduction targets can be met. “It is about collaboration with a capital C,” said Chris Newsome, chair of GCB Infrastructure Working Group and an executive director at Anglian Water.

“It needs leadership, early action, collaboration at the project level, program level and industry level – across businesses and in clusters. I believe we face a bright future in infrastructure in the UK and globally. But we need to make it a bright and low-carbon future,” he stressed.

Chair of the seminar, Dr Paul Toyne, a sustainability expert and London Sustainable Development Commissioner, said: “We are an industry that wants to provide low-carbon, affordable solutions. We need to prioritize effective working and collaboration. We have all got a part to play but we have to be a little bit smarter, work a little bit harder together and we can deliver these solutions.”

The seminar, held in partnership with the Green Construction Board with the combined support of Volvo CE and Volvo Trucks in the UK, brought together some 100 business leaders from major infrastructure projects, contractors and research bodies, including Skanska, Anglian Water, and Cambridge and Leeds universities, as well as government agencies.

The event covered an array of topics including the challenges of reducing carbon in infrastructure projects, tools and guidance to measure and achieve carbon reduction, client expectations of their supply chains, and how new technology and low-carbon materials can help deliver substantial carbon and cost reductions with higher performance.

The UK’s ambitious environmental targets have been set at a 35% reduction in carbon emissions by 2025 and 80%

by 2050. “Bold targets are needed as they stop the industry from just nibbling at the edges, and entice them to look at things fundamentally differently,” said Andy Mitchell, Chair of the Infrastructure Client Group and CEO of Thames Tideway Tunnel.

SUPPLY CHAIN

To help industry meet these targets, the world’s first standard for carbon management in infrastructure was launched in May 2016, called PAS 2080. Aimed at the members of the value chain, it provides a common language for industry to effectively reduce carbon. “The PAS 2080 guidelines should be implemented from the beginning, because it’s at the earliest stages where the greatest chance to reduce carbon and cost exists,” the meeting heard.



L-R: Andy Robinson, Future Cities Catapult; David Crick, Ecogreen Plant Hire; Jenny Elsberg, Volvo CE; Andy Spencer, CEMEX UK; Magnus Hammick, Advance Conversion Technology; Andrew McCann, Topcon; Mark Huges, Polypipe Civils

Mark Fenton of the major high-speed rail project HS2, confirmed this: “Only through collaboration across the supply chain will we be able to meet our objectives. PAS 2080 is key. It provides a framework to deliver low carbon.”

Jannik Gieseckam, a sustainability expert at Leeds University, said that the more that Green House Gases (GHG) are mitigated in well-understood sectors like construction, the less we depend on other sectors which are

less well understood. “Construction firms in 14 countries alone influence 4.4 gigaton of carbon dioxide of supply chain emissions. If you can align supply chains you can meet objectives.”

Bill Law, senior vice president of Volvo CE which hosts the CCC project, said low-carbon infrastructure is now at the center of the climate debate. “In the UK, infrastructure is high on the political agenda and delivering it in a sustainable way is one of the big challenges the country faces.

“Volvo CE has long been committed to reducing harmful emissions from its products and facilities, but climate change is too big of an issue to be dealt with through the resources of one company alone. The CCC is a platform for the whole industry to come together. Together we have a better chance of finding solution. It doesn’t matter who takes the lead as long as the lead is taken.”

BOLD TARGETS ARE NEEDED

PRIDE OF PLACE

A Polish company has taken delivery of the first Volvo EC750E crawler excavator sold in Europe

by Katherine Brook



The EC750E is the perfect fit

The giant 75-tonne EC750E is ready for heavy dirty duties. The first to be delivered in Europe is now hard at work for Polish cement company Cementownia Warta SA.

Innovation never stops at Volvo, and the EC750E – Volvo CE's largest crawler excavator available in regulated markets – is no exception. So keenly was its arrival anticipated that even before the 75-tonne crawler excavator had been unveiled at the Bauma exhibition in Munich last year in April 2016, Warta had already put in an order.

Warta, named after Poland's third-largest river, which flows nearby, is based in Pajęczno County in central Poland. The company produces cement for road construction, airports and hydraulic structures, such as dams and water power stations.

"It is a privilege to be the first customer in Europe to receive the EC750E," says Dariusz Gawlak, managing director of Warta and vice president of the Polish Cement Association. "Our machines are required to work long hours while maintaining efficiency, so operator comfort and

extended uptime are key requirements. It was for these reasons that the EC750E was the perfect fit for our needs."

The EC750E offers innovative electro-hydraulic technology, optimized to operate in harmony with the robust engine, providing greater operator control and productivity. Moreover, the industry-leading Volvo cab delivers the superior operator experience Warta is looking for, with a low-noise environment for optimum operator productivity. Ergonomically positioned interfaces – including the joysticks, keypad and LCD monitor – and clear all-around visibility ensure maximum efficiency and ease of use.

GREAT EXPECTATIONS

The excavator was delivered to Warta in October 2016 and was immediately put to work in the company's limestone quarries. At the handover ceremony in November 2016 at Warta's headquarters, the two companies celebrated the machine's 'launch' in the style of an ocean liner – by

smashing a bottle of champagne over its flanks.

Although the machine had only been operating on site for a few weeks, Gawlak expressed his delight with its performance so far. "It is a pleasure to be able to present the excavator in its natural environment, doing what it does best. So far, the EC750E is living up to expectations. It's also compatible with our Volvo A40Es, and when fitted with articulated hauler side extensions on the hauler body, gives 15% more hauled material with the same fuel consumption," he adds.

"There is no better way to celebrate this moment than to see the machine hard at work," says Rob Lane, business manager at Volvo CE. "Moments like this complement our customer's purchase experience, supporting and continually strengthening our working relationship together."

Warta is no stranger to Volvo CE. A customer for eight years, the company bought its first machine in 2008 – an

INNOVATION NEVER STOPS AT VOLVO

L120F wheel loader, which is still working in the quarries. It now owns 20 Volvo machines in total: four crawler excavators (EC700B, EC700C, EC290C and now the EC750), five wheel loaders (L350F, L220F, L120F, L120G and BL71) and 11 of Volvo's 40-tonne articulated haulers (models A40E and A40G).

"With so many Volvo machines already in our fleet, the decision to purchase another was obvious. Not only do the machines meet performance requirements, but Volvo has a good aftersales presence, which is essential to ensure machine uptime and ultimate productivity on site," says Gawlak. ☒

POLAND



Warta Managing Director Dariusz Gawlak on site



L-R: Sebastian Broncel, Volvo CE; Rob Lane, Volvo CE; Dariusz Gawlak, Warta; Mariusz Wisniewski, Volvo CE; Sławomir Goszdzak, Warta

METAL MASTERCLASS

A Canadian-based recycling company wastes no time adding value to scrap metal

Text and photographs by Ronald Mullins



RELIABLE MACHINES WITH LOW OPERATING COSTS



Recently acquired Volvo EC480D

Shortly after sunrise each morning when General Manager Stuart Sharpe and his team arrive at the sprawling Tervita Metals Recycling worksite, located in north-east Red Deer, Alberta, Canada, their gaze is met by tonnes and tonnes of what others would call junk but they see as treasure.

This massive 17-acre (7ha) site is the headquarters of Tervita's metal recycling operation and is a jumbled maze covered with every type of scrap metal imaginable. To the casual visitor it might appear to be organized metal-recycling chaos. There are damaged railcars, rows of worn-out railcar wheels, 'dead' city buses, kilometers of used gas-field piping, expendable parts from oil wells and drill rigs, bitumen concentrators, cooling radiators, heating units and parts from gas refineries.

If it was made from metal and has served its purpose it is likely to be found here. The company also carries out satellite metal-recycling in Peace River and Fort McMurray, Alberta.

Tervita Metals Recycling is a division of Calgary, Alberta-based Tervita Corporation. With more than 2,000 employees in Canada, Tervita is a leading environmental solutions provider and a trusted sustainability partner to an ever-growing number of oil, gas and industrial operations, as well as mining companies.

SOURCE MATERIAL

The company collects the scrap metal in various ways. It manages a series of dumpster-style bins placed at strategic locations throughout central Alberta, carries out on-site demolition and metals reclamation, and also purchases scrap metal from the public.

Tervita's rail-salvage operation is unique. This division is currently under contract to Canada's two major railways, Canadian Pacific and Canadian National, and is on standby 24/7 – time is always of the essence. Should there be an accident or derailment, the company gets the call to head out

and clear the track and salvage the damaged railcars and rails. In addition, it provides on-site demolition and metal-recycling services for a number of the country's major oil and gas producers, including Cenovus, Suncor and Shell.

When the scrap metal is brought into the yard, it is weighed and checked for contamination, including radiation. Once cleared, it is sorted into ferrous and non-ferrous material. It is then processed and cut into marketable dimensions, bundled, sold and shipped by rail to mills in Canada, the United States and by rail/ship to offshore smelters.

ON TRACK

It is at this sorting and cutting stage that the heavy, tracked equipment comes into play. Currently in Tervita's Red Deer yard, there are five track-mounted hydraulic shears and four large track-mounted material handlers. It is here that Volvo Construction Equipment and its dealer group Strongco play important roles. The last four crawler excavators purchased by Tervita are by Volvo CE and include the EC340D, EC350E, EC380E and their most recent purchase, an EC480D.



Quang Nguyen, Senior Machine Operator, Tervita (l) with Dave MacLeod, Key Account Manager, Strongco

When asked what the company looks for when considering buying a new tracked carrier Sharpe says: "Typically in the past we have run 45-50 tonne machines, but since the hydraulic shears have improved and become lighter and more powerful, we can now run good solid shears on smaller carriers. These lighter machines are more fuel efficient and easier to transport and maneuver as we chase the scrap."

The next obvious question is, with such a wide variety of tracked carrier manufacturers available today, why does Tervita favor Volvo CE. Without hesitation, Sharpe explains: "As part of a large corporation we have to go out to all of the manufacturers to bid when we are looking for carriers for our shears. The last four machines we purchased have been Volvo and the reason for that is the exceptional value we received for the dollar we spend. They are very competitive and give us extremely reliable machines with low operating costs. Based on that, Volvo has won the bid for the last four competitions."

Currently, the company owns 10 tracked carriers for their hydraulic shears as well as a number of pieces of support equipment, including material handlers, balers, wheel loaders and skid steer loaders.

Wade Englesby, Tervita's Operations Manager is especially pleased with the recent Volvo purchases. "To be successful in this business you need to be cost efficient," he says. "In dealing with Volvo there were some strengths in terms of fuel economy as well as in the size and weight of the machines. We move a lot of machines offsite and Volvo was better than the other brands in those areas. We decided to give Volvo a try, so we brought one machine in and you know what, the fuel economy was great but, more important, so was the customer service. That is very important to us because downtime on a machine is very expensive. I want to minimize any downtime and increase my machine utilization, and that is the formula we have been getting from Volvo and Strongco."

REAL OPERATORS

It is certainly advisable to get answers to such crucial questions about their Volvo purchases from the company's management team. But what about those people operating the machines, who spend eight to ten hours a day in 'their office'.

Quang Nguyen, who has worked in scrapyards in his native South Vietnam as well as Hong Kong, Macau and China, and for the past 30 years in Canada, has been operating excavators and tracked shears for more than 35 years. He is a respected expert on the combination of crawler excavators and hydraulic shears, so much so that Genesis Hydraulic Shears and crawler excavator companies, including Volvo CE, go to him for advice and direction.

Today, Nguyen is operating Tervita's latest purchase, the Volvo EC480D. "I've operated all types and brands of machines. The Volvo is good for me, I like it. It has a lot of power to operate the shear; it works for me. And the cab is excellent – I can see everything. The seat is also great – I'm just a little guy; the Volvo is great."

The 50-tonne, 373hp Volvo EC480D crawler excavator has the reach and lifting power as well as more than



Stuart Sharpe, General Manager, Tervita



Wade Englesby, Operations Manager, Tervita

adequate hydraulic pressure, making it the ideal shear carrier for Tervita. With an overall width of only 11 feet, 11 inches, (363cm) it is easy to transport and works well in tight spaces.

INTERESTING TIMES

Interesting is certainly one word that can be used to describe a recent job completed by Tervita's Rail Salvage Division. Last winter saw the team called out to Churchill, Manitoba, on the shores of Hudson's Bay in Canada's far north, to deal with a legacy rail accident for the Hudson Bay Railway Company. The company loaded its Volvo EC380E mounted with a hydraulic shear and moved it across three Canadian provinces to Churchill where they cleaned up the accident as well as decommissioning a number of outdated railcars. The scrap was then loaded directly onto Tervita's own railcars and shipped south to the mills in the USA.

It was a challenging job: the machine and crew were 30km south of Churchill in the wilderness, it was minus 30° Celsius, and at that time of the year, at that latitude, the battle between daylight and darkness added to the crew's challenge list. But the EC380E performed perfectly and the job was completed in record time.

Sharpe sums it up: "We have been deliberately moving from the larger machines. The new generation of shears is lighter and very powerful and can be run on the 35-40 tonne machines. This gives us lower initial capital outlay, lower operating costs, much better fuel economy and just that agility to move quickly to the scrap – I know that gives us a competitive advantage in this business. We are very happy with Volvo CE and dealer Strongco." ☞

Visit the *Spirit* website or download the *Spirit* app for the video report

LIGHTENING THE LOAD

Volvo articulated haulers are the trucks of choice at the largest lignite mine in South Eastern Europe

by Oliver Halls



AROUND-THE-CLOCK OPERATION

The Stara Zagora Province is a particularly coal-rich region in central Bulgaria. Since the early 1950s, the state-owned Maritsa Iztok coal-mining company has extracted lignite (or brown coal) from the area. Today, it is the largest energy complex in South Eastern Europe, producing in excess of 23 million tonnes of coal a year.

Most of that coal is then sold to three thermal power plants located nearby. One is owned by the Bulgarian state; the other two by US-based ContourGlobal and AES, which generate around 30% of Bulgaria's electricity output. To keep the coal supply flowing – and Bulgaria running – much of the mining groundworks are carried out by Globus, a subcontractor based in Stara Zagora city, about 50km from the mine. Globus uses its 60-strong fleet of excavators and wheel loaders – from various manufacturers – to remove the overburden, which ranges in thickness between 10 and 15 meters, to reveal the raw lignite below.

“Until recently, we used on-road trucks to ferry the lignite away from the mining site to the processing plant,” says Stoyan Rusev, general manager of Globus. “However, the gruelling nature of the work required the trucks to operate long hours and in harsh conditions, resulting in excessive maintenance and repair costs, as well as operational issues due to downtime.”

The trucks' high total cost of ownership led Globus to investigate purchasing a fleet of premium articulated haulers for the task.

FRONT RUNNERS

After testing various models from different manufacturers, Globus found that Volvo CE came out on top. Volvo CE has been involved in the Bulgarian market since 2001, and has been in partnership with independent dealer Sigma Bulgaria since 2007. Since then, the brand has begun building up a solid presence in the country. “When it comes to articulated haulers, Volvo CE is the best brand; the

competition doesn't even come close in terms of productivity, durability and fuel efficiency,” says Rusev.

Since October 2015, Globus has imported four used A40F and bought five new A40G articulated haulers from Sigma, as well as an L35G compact wheel loader. The machines are now in around-the-clock operation on site, with the target of shifting 3 million cubic meters of overburden a year.

Being operational 24 hours a day puts an enormous strain on the machines, which posed a challenge for Sigma when it came to servicing them. “The haulers need to be maintained every 500 hours of operation, and when they're working virtually all day, every day, each machine needs to be serviced every 21 days,” explains Haris Bailas, general manager at Sigma Bulgaria. “When you've got nine machines, that means a machine needs to be serviced roughly

every two days. To arrange for an engineer to travel to and from the site every few days just wasn't practical, so we had to find another solution.”

FULL ON

To provide the best possible service, Sigma built a €30,000 on-site service warehouse and hired a full-time maintenance engineer to ensure downtime is kept to an absolute minimum. “The warehouse contains all required spare parts and the engineer is based close to the Globus site, so he can be on site quickly when needed,” continues Bailas. “He doesn't get much time off, but he's a bit of a workaholic, so he doesn't mind!”

“We are already receiving positive feedback from customers and companies cooperating with Globus about our presence there,” concludes Nicolas Broisin, business manager for Volvo CE in Bulgaria. “The reliability and productivity of our machines is being noticed, as is our willingness to go to great lengths for our customers. Working on this project is going to be a really good step forward for all involved.”

THE BRAND IS BUILDING A SOLID PRESENCE

ROCK-SOLID SURVIVAL

Advanced technology will put race enthusiasts in touch with the on-board action

by Julia Zaltzman



Danish sailors Nicolai Sehested and Peter Popp Wibroe of Team Vestas Wind on a live call with TV2 Denmark using Inmarsat uplink, October 2014



Team SCA, in-port race Cape Town, October 2014

The Volvo Ocean Race, it is fair to say, is somewhat of a dichotomy. On the one hand, it is a highly progressive sporting challenge that uses advanced Inmarsat satellite networks more than 36,000km away to track moving 65ft-long (19.81m) yachts slamming through 3-meter high waves in the middle of the world's oceans via a satellite dome located on the back of each boat.

On the other hand, all crew are subjected to a blanket media blackout for the duration of the nine-month race to prevent the potential of any external support. So, while the crew are at the helm of the most innovative offshore racing boats on the planet, they are also completely cut off from the day-to-day stream of global internet chatter.

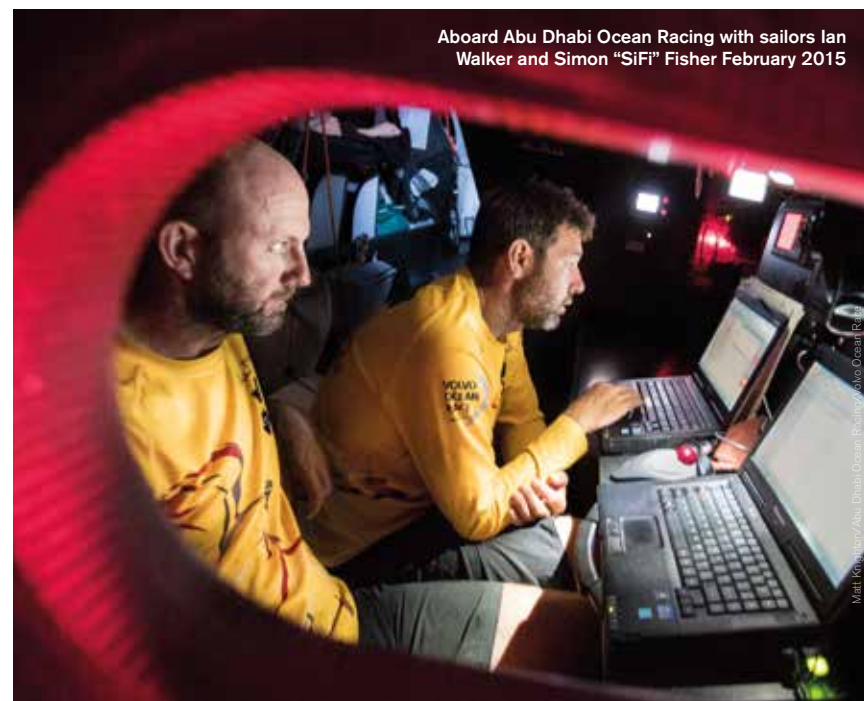
"The crew can send social content off the boat but they can't interact with anyone, otherwise they might get help!" says Eric Ernst, Volvo Ocean Race stopover IT manager. The task, therefore, is how to maintain spectator interest for the duration of the race when the protagonists are locked away

at sea. "Connectivity has always been our biggest challenge because that is the only way to tell the story of what is happening. Connectivity is part of our DNA," he says.

FAN CLUB

Aside from the obvious crew safety requirements, the main driver for increased connectivity is fan-based entertainment. Every boat in the Volvo Ocean Race has an on-board reporter (OBR) dedicated to capturing the stories of the race and the crew. The reporter is not allowed to do anything sailing related; their role is confined to sending quality footage back to race control, and to help create editorial content.

In the last race, they provided insightful nuggets of what life was like at sea, but the reports were very much from the OBR's perspective, rather than the crew. The aim now is for the OBR to stay behind the camera, says Volvo Ocean →



Aboard Abu Dhabi Ocean Racing with sailors Ian Walker and Simon "SIFI" Fisher February 2015



Race Control, Alicante, Spain



Jordi Neves



Eric Ernst

Team Vestas Wind depart Cape Verde islands October 2014

Race chief digital officer, Jordi Neves, and for the crew to appreciate that they are the brand ambassadors.

"In the 2017-18 edition, we're hoping that the sailors realise that there is real a world watching them," says Neves. "For the first time, we'll be equipping them with a device that will allow them to interact with the audience by Tweeting, posting on Facebook, Instagram, and Snapchat. The guys won't be able to see any responses because they don't have access to the sites and we don't want people coding secret messages into the replies that could help them, but we're developing a system that will serve as a gateway to allow this one-way communication."

Race control functions as the crew's link to the outside world. "It's a NASA-style room in Alicante that on the one hand ensures the security and safety of the fleet, but on the other will take all the content and messages coming from the boats, and distribute it around the globe. It's from that room that we try to tell the story," adds Neves.

It is hoped that a daily digest sent to each crew member containing their stats and media logs will keep them enthused. On the flip side, it will also create a direct link between the crew and fans, so that those watching from

home can dream about life on board and experience the highs, the lows, and life at sea themselves.

The fan experience does not end there, however. Within the race village at all stopover sites sits a media centre where Ernst and his team put together live IP broadcasts by building networks from helicopters to production desks where they use satellite signals and TV signals to create a live show.

"Everything we've built needs to withstand a massive amount of punishment because of the environment that these yachts race in," explains Ernst. But, already at the cutting edge of technology, he says this form of immersive entertainment is only set to get more advanced.

"For future editions we're looking at using 360-degree cameras, virtual reality, and augmented reality, with the focus on how we consume the race as spectators, and how fans can further understand the extreme life on board. All of that is going to drive a massive change to how we bring the drama of those at sea straight to the people watching from home." TM

Visit volvoceanrace.com for news and video updates

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The Construction Climate Challenge
is part of Volvo CE's commitment to
WWF's Climate Savers Program.



WELCOME TO THE CONSTRUCTION INDUSTRY CLIMATE INITIATIVE

The Construction Climate Challenge is hosted by Volvo CE to promote environmental awareness in the construction industry. We aim to create a dialogue between industry representatives, academics and politicians, as well as providing funding for new research and sharing existing knowledge and resources to help the industry make a difference for generations to come.

Volvo CE has long been committed to reducing harmful emissions from its products and facilities. But climate change is too big of an issue to be dealt with through the resources of one company alone. As acknowledged in 1972 by former Volvo Group President and CEO Pehr G. Gyllenhammar: "We are part of the problem – but we are also part of the solution."

Read more about the Construction Climate Challenge here: constructionclimatechallenge.com