VOLVO

VOLVO CONSTRUCTION EQUIPMENT MAGAZINE
AUGUST 2006

ISSUE 20

VOLVO SPIRIT

POWER SHARING



PLUS

Inside Track:
We talk to Scott Park in Brussels

Globetrotting:
We visit Dubai

Extreme Volvo:
The Ocean Race in Gothenburg

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VOLVO



The remarkable Volvo Hard Hat is yet another good reason for choosing Volvo Construction Equipment. Designed by head and face protection experts Peltor and commissioned exclusively as part of Volvo's Safety Challenge 2006, this cutting-edge design is ergonomically styled for greater safety and convenience. It's incredibly light (only 365g – 12.9oz), tough and comfortable, with sliding integral safety glasses fitted as standard, plus a wide range of accessories including earmuffs and communication solutions available as options.The Volvo Hard Hat will be distributed with every new Volvo CE machine delivered from May to December 2006.

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VOLVO

VOLVO SPIRIT

VOLVO CONSTRUCTION EQUIPMENT MAGAZINE

Moderation in all things, they say. Well, that's not for us in our August edition of Volvo Spirit. We're all about extremes.

Volvo machines, of course, are designed to cope with extremes of every type, while at the same time offering operators as comfortable a ride as possible.

G. F. Hassan Alawneh, a senior operator working on a massive project to extend the port of Salalah in Oman, is as grateful as anyone for Volvo's commitment to comfort. The cabin of his EC460 excavator is so well acclimatized that he doesn't even break sweat when summer temperatures soar to 50°C (122°F). How about that for extreme!

Things weren't quite so cushy for the competitors of the Volvo Ocean Race, though, which finished in Gothenburg in mid-June. Their Volvo 70 racing yachts were designed for world-record speeds while coping with 50ft waves and raging storms. For once, creature comforts were sacrificed in search of total performance, as Tony Lawrence found out. 'Life at the Extreme', the global race motto ran, and so it proved.

Our ocean theme continues with Swede Joakim Severinson. The only extreme things about him are his imagination and tenacity. Twenty years ago, he helped excavate the wreck of an 18th century trading ship. Today, his dream of building a replica and sailing it all the way to China has come true.

Brian O'Sullivan, meanwhile, investigates Dubai's rapid transformation from modest trading port into spectacular metropolis, as well as a $1.25 billion hydroelectric scheme in Laos.

We are delighted to be playing a role in all these projects, just as we are delighted with our 50-year association with Spruce Products and its environmentally-aware sawmill operation in western Manitoba.

We believe we have equipment for every job… except, perhaps, for solving sudoku puzzles. Dan Waddell charts the worldwide rise of the Japanese phenomenon. Only time will tell, he says, if it will be a passing craze, like the Rubik cube, or if it is built to last, like the crossword.



Beatrice Cardon
Editor

VOLVO SPIRIT

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Cover picture: Nam Theun 2 Laos

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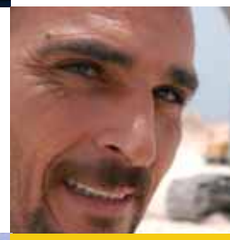
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PEACE OF MIND



Choosing Volvo Construction Equipment for its quality and reliability is, of course, one of the best business decisions you'll ever make. So how can you make it even better? Easy: include a Volvo Customer Support Agreement in your machine investment. It's the sure way to make the most of your Volvo equipment, by maximizing performance and optimizing up-time.

However, as no two businesses are the same, Volvo has created four versatile Customer Support Agreement packages – from a program of regular machine inspections to a comprehensive repair and maintenance schedule that eliminates the need for having your own on-site engineering workshop.

From this completely flexible base, your authorized Volvo dealer can develop an agreement uniquely suited to meet the needs of your business – and at a price that suits your individual budget and cash flow. The result is less stress, more productivity and no unpleasant surprises.

FOR TOTAL PEACE OF MIND, ALL YOU HAVE TO DO IS PICK A COLOR.



Our four Customer Support Agreements – white, blue, silver and gold – are all flexible. This means that, regardless of what your business looks like and how it changes over time, you as a machine owner can avoid unplanned downtime and unexpected costs. And that you are assured of maximum profitability.

For more information on Volvo Customer Support Agreements, contact your local dealer. www.volvoce.com.

Not all Customer Support Agreements are available in all markets. The content of Customer Support Agreements may vary depending upon territory.

POWERSHARING

Photography: Dave Wee

MOST OF THE POWER GENERATED BY THE NAM THEUN 2 HYDROELECTRIC SCHEME IN LAOS WILL BE EXPORTED TO NEIGHBORING THAILAND. BUT, AS BRIAN O'SULLIVAN REPORTS, THE REVENUE THIS WATER RESOURCE GENERATES WILL LIFT THOUSANDS OF LAOTIANS OUT OF POVERTY.



The Lao People's Democratic Republic (Laos) is an utterly beautiful country that has seldom been lucky. One of Asia's poorest nations, its history is bedeviled with quarrels with its neighbors and occupations by foreign powers. Despite abandoning economic communism in the 1990s and entry into the Association of Southeast Nations (ASEAN), it takes time to turn a country around. Even today, when the nation has long been at peace, most of its people still struggle to survive on meager rations. But things are improving and the biggest investment ever considered in Laos is finally underway. Called Nam Theun 2, it is a hydroelectric scheme that is simply vast. Funded by the World Bank, the Asian Development Bank and the European Investment Bank, the $1.25 billion project involves the formation of a reservoir covering 450km² (173.7mi²) in order to harness the hydroelectric potential of Lao PDR's mighty Mekong river.

The Laotian people are desendants of Thai tribes that were pushed southwards from Yunnan, China in the 13th Century. So it is appropriate that both Thais and Laotians should benefit from the Nam Theun 2 project. For unlike many other hydro projects, the majority of the 5,600 GWh produced annually by the dam will not be used in the Lao PDR but rather exported to neighboring Thailand, whose growing demand for electricity consistently outstrips domestic supply. The income from this power – enough to light 750,000 homes – will be used to improve the lives of Lao PDR's 5.8 million people, 70% of whom survive on less than $2 a day. With the taxes, royalties and dividends the Lao government will receive annually from Thailand, basic health, transportation, irrigation, water supply

THE HYDROELECTRIC PLANT WILL PRODUCE ENOUGH POWER TO LIGHT 750,000 HOMES

and education will all be boosted, as well as providing work for at least 4,000 locals during the construction period. The small proportion of power that will be retained by the Lao PDR (about 200-300 GWh) will also be used to promote economic and social development.

The project site is in the central provinces of Khammuane and Bolikhamxay and involves the development of a 1,070MW trans-basin diversion power plant on the Nam Theun River, a tributary of the mighty Mekong. A 39m (128ft) high dam will help form the 450km² (173.7mi²) reservoir, water from which will cascade at 250m³ (327yd³) a second down a 350m (383yd) long headrace and pressure channel into the power station. Having passed through the power station the water will flow along a 27km (16.8mi) channel to the Xe Bang Fai, also a Mekong tributary. A regulating pond is to be constructed downstream of the powerhouse to ensure the smooth release of water into the watercourse. The power generated will travel via a 138km (85.75mi) long double circuit 500 kV transmission



line that connects to Thailand's electricity grid. A smaller 115kV transmission line will travel 70km (43.5mi) to tap into the regional Lao grid.

31 year concession

The project is being developed by the Nam Theun 2 Power Company, a consortium comprising Electricité de France International (35%), Thailand's own electricity generator, EGCO (25%), the Italian Thai Development Company, ITD (15%) and the Lao government (25%). A Build-Own-Operate scheme, the project is structured as a 31 year concession, thereafter ownership transfers to the Lao government. Work began in May 2005 and is due for completion by the end of 2009.

The project is still in its early stages and the first jobs are largely enabling: building access roads, establishing quarries for aggregates etc. These tasks, along with forming the downstream channel, are the responsibility of ITD. Established in 1954 between friends Dr. Chaijudh Karnastua (a Thai) and Georgio Berlingieri (an Italian), ITD is now a major construction and civil engineering firm in the region, having worked in the Phillippines, Dubai, Cambodia, Bangladesh, India, Indonesia and Taiwan. In addition to its know-how in airport and seaport construction, rapid transit systems, motorways, railways and bridges, etc., the company has extensive experience of Dam and tunnel construction, most notably building the complex Khao Laem hydro project in the west of Thailand in the early 1980s. This involved building a 1km long 127m high (0.6mi long, 416ft high) concrete faced rock dam, as well as inlet towers and penstocks that supply water to the 300 MW generating station.

ITD has over 4,500 people on site at Nam Theun 2 and has invested in an impressive fleet of equipment from Volvo Construction Equipment. A long time user of another well known brand, ITD made the switch and in 2005 alone acquired 66 pieces of new and used Volvo equipment for this project. These include 49 crawler excavators (33 EC210BLCs, 12 EC360BLCs, two EC460BLCs and two EC290BLCs). In addition there are eight motor graders (six G730Bs and one G720), four A25C haulers and five wheel loaders (three L120Es, one L150C and one L150E). With so many excavators and motor graders on site the company is making light work of creating and shaping the access roads. The EC210 has proved especially popular – with over 30 supplied by Thai dealer Italthai Industrial Co – because of its performance and flexibility.

The six-cylinder Volvo diesel engines fitted to the excavators are mapped to mirror each model's high-performance hydraulic requirements, so that engine speeds remain low, even in hard trenching or mass excavation duties, thereby providing high fuel efficiencies. A charged air cooler works in tandem with the turbocharger for more efficient combustion and lower emissions; while a three-stage air cleaning system helps prolong engine life, increasing uptime by effectively filtering out particles before they reach the engine. An optional oil bath pre-cleaner also provides additional particle filtration and easier maintenance.

IT WAS THE VOLVO'S GREATER RELIABILITY AND PRODUCT SUPPORT THAT PROMPTED THE SWITCH TO VOLVO

Other aspects that keep Volvo's crawler excavators productive include Contronics, an electronic system that monitors machine functions in real time. The ergonomic design of the cab is also important in maintaining a productive unit, this ease of use helping to reduce operator fatigue. Cab features throughout the range include an adjustable seat and joystick, integrated climate control air-conditioning system, a thin crossbar and large glass areas for good all-round visibility. Sound absorbing lining reduces internal and external noise levels. Features that aid functionality include: a common oil drain, centralized lubrication points and a three stage air cleaning system to keep dirt and dust out of the air intake system. All models in the B-Series offer a standard bucket, their capacities tailored to fit the weight and power of each machine: the EC210B has a 0.9-1.55m^3 (1.18-2.03yd^3) bucket range, while the EC290B's is 1.08-2.1m^3 (1.41-2.75yd^3) and the EC460B 1.8-3.73m^3 (2.35-4.88yd^3).

It was the Volvo's greater reliability and product support that prompted the switch to Volvo, and the equipment is being put to a tough test, with many of the machines working around the clock, in eight hour shifts. But all equipment needs to be maintained, and a rapid supply of spare parts is crucial, with work being conducted by a nine strong maintenance team.

Like many hydro projects that involve flooding great areas and the displacement of people, the Nam Theun 2 project has had its fair share of detractors. But with comprehensive environmental plans in place and over $90 million set aside to help ameliorate the transition, confidence is growing that the project will be an economic and social success. The financial endorsement of the World Bank and Asian Development Bank (ADB) indicate that the project is onto a winner. As the ADB president Haruhiko Kuroda said: "This project will significantly improve the living standards of one of the poorest countries in the region."



INSIDE TRACK

Dan Waddell met Scott Park,
Senior VP of Processes & Systems and CIO
Photography: Julian Cornish Trestrail

FOR MUCH OF HIS LIFE, SCOTT PARK HAS BEEN ON THE MOVE. AS THE CHILD OF A DIPLOMAT, HE GREW UP IN THE UNITED KINGDOM, MALAYSIA, THE PHILIPPINES, BRAZIL, JAPAN, BEFORE MOVING TO KOREA FOLLOWING HIS FATHER'S DEATH AND THEN EVENTUALLY SETTLING IN THE US.

Ensconced behind his desk as Chief Information Officer and Senior Vice President Processes and Systems at Volvo CE in Brussels he surveys his surroundings: "Now I guess I'll be spending a few years here," he says with a smile.

Actually, Scott, 41, believes that in Volvo CE he may have a found a company where he may spend rather more than a few years. In fact, he's even thinking of adding French to his growing repertoire of languages.

So what is it about Volvo that suits him so much?

"I love being in Volvo, the culture. It's "wysiwyg": what you see is what you get. You don't get a lot of politicking – you get it straight. The best assets are the people; you get to work with good, honest people. I see this as possibly a lifetime decision. I can see myself ending my career at Volvo."

Ethics and loyalty have always been important to Scott, and in the past he has not been afraid to switch jobs or seek work elsewhere if a firm's values have not matched his, regardless of the material benefits that may have cost him. "Doing the right thing", to use his phrase, has always been a primary motivation.

When his family settled in the US, their previous life of diplomatic luxury and status a memory, they put their all into running a grocery store. Scott gave up vacations and his spare time to help out – while seeking a few business opportunities of his own.

"In Brazil, I think it was when I was in second grade, the mother of one of my friends was a secretary and back then they used carbon paper. They would use it once or twice and throw it away. He would take it from his mum, I would buy it from him and then I would resell it.

"In junior high school I sold pens and things like that. It got to the point where the school shop actually called me and bought me out of my entire stock."

After college he went into management consultancy. Once he got his MBA he returned to consultancy. From there he went to bio-tech firm Amgen, then in consultancy again working much of the time in Korea, and he took the CIO position for Volvo CE's Excavator Business Line and Region Asia in 2002.

"It was time for me to get a real job again. Get into a real company and not only develop strategies, but execute them. I had never done the Chief Information Officer job before and that was a skill I wanted. "

He became acting CIO for the group, shuttling back and forth between Seoul and Brussels. In 2005, he moved to Brussels when his present position became vacant, and he is looking



"I LOVE BEING IN VOLVO, THE CULTURE. IT'S "WYSIWYG": WHAT YOU SEE IS WHAT YOU GET. YOU DON'T GET A LOT OF POLITIKING – YOU GET IT STRAIGHT"



“EVERYTHING WE DO IS ABOUT THE CUSTOMER. IF YOU LOOK AT PROCESS MANAGEMENT, WE DO THAT TO MAKE SURE WE HAVE THE ABILITY TO SERVE CUSTOMERS”

forward to being joined in the summer by his two daughters, aged six and four, and his wife, who doubles up as his golf partner.

One of his tasks at Volvo CE is to oversee the Customer Satisfaction Survey, essential in getting direct feedback from customers.

“The CSS is not a complicated tool. Often very simple things can help the customer. For example, we had a customer who was quite irate because he felt our salesman was being rude, asking for financial information. His complaint was followed up, and it turned out the salesman was only asking for his credit information so he could help him do the financing. As soon as it was explained to him, the customer placed an order for some new machines on the spot. And sales people now receive specific training to avoid misunderstandings in the future.”

“Everything we do is about the customer. If you look at process management, we do that to make sure we have the ability to serve the customers. Look at many other departments and that is why they exist. We are always thinking about customers, both the end customer and the dealer. We can’t forget the dealer because if we don’t have the right distribution channels we don’t get to our customers. We try to look at it from the outside in, not the inside out. We take a step back and look at what our dealers and customers are saying and what can we do to help them succeed.”

EXTREME VOLVO

THE TRUE FACE OF AN OCEAN MARATHON

TONY LAWRENCE reports

Photography: Julian Cornish Trestrail

THERE WERE NO ICEBERGS IN GOTHENBURG HARBOR ON THE FINAL DAY OF THE 2006 VOLVO OCEAN RACE, NO FORCE NINE GALES NOR 50FT WAVES. PERHAPS THERE SHOULD HAVE BEEN.







For most landlubbers, the extreme challenges posed by the eight-and-a-half-month event were beyond imagination, let alone comprehension. A few threatening ice floes or a churning, angry sea would at least have given onlookers some notion of what the race had been about.

Instead the wind gods, having battered the competitors for large swathes of their 31,000-nautical-mile assault course, admitted defeat on June 17 and turned tail.

The ninth and final leg of the race, between Rotterdam and Gothenburg, had been designed as a dramatic sprint but instead the final miles turned into a sun-drenched, snail-paced crawl across the glass-surface of the North Sea.

Not that the placid conditions – or indeed the fact that the outcome of the race had already been decided weeks before – deterred the crowds. They turned out in force to cheer home the Volvo 70 yachts after their global marathon. An estimated 250,000 people camped out on the hills overlooking the estuary to greet the competitors.

The final-leg honors went to Pirates of the Caribbean, the American team having hunted down ABN Amro Two in the final miles after the Dutch boat ground to a halt in a windless pocket.

Paul Cayard's boat, its black-and-red sail brilliantly emblazoned with the skull and crossbones, thus stole past just outside the Gothenburg archipelago.

She was immediately met by a myriad of sailing boats and speedboats, replica clippers and even a Viking longboat, all latching onto her like a shoal of pilot fish. Helicopters and small planes boosted the welcoming party while high-speed patrol boats from the Swedish navy tried to police the excitement.





AN ESTIMATED 250,000 PEOPLE CAMPED OUT ON THE HILLS OVERLOOKING THE ESTUARY TO GREET THE COMPETITORS

The overall Ocean Race winner, Mike 'Moose' Sanderson's ABN Amro One, which had dominated the race by winning six of the first seven legs, also struggled in the quiet conditions and did not arrive until many hours later, stuck at the back of the field.

By then, the party at the Race Village was already underway. Spectators, splashed with sun lotion and armed with ice creams, ambled through the Lindholmen wharf area, visiting sponsor exhibitions as they waited for each of the surviving six vessels to moor up. The exhibitions included an array of gleaming Volvo cars, trucks, buses, boat engines and aerospace components, although a blue-liveried AD40 articulated hauler, the 50,000th to roll off the production line, turned more than its fair share of heads.

The center of attention, though, belonged to the race boats.

On the surface, the returning yachts looked in pristine condition while their skippers and their teams appeared relaxed and in leather-tanned good health.

Both boats and crews, however, had taken a brutal pounding on their journey from Vigo in Spain via Cape Town, Melbourne and Wellington, Rio de Janeiro and Baltimore, New York, Portsmouth and Rotterdam and, finally, Gothenburg.



Throughout the race the main talking point concerning the Volvo 70s had been their revolutionary canting keels. The keels' ability to swing 40 degrees either side of the center line under the boat meant improved stability, which in turn meant transforming an already fast boat into an ocean-going missile. Movistar, indeed, broke the world speed record for a monohull, covering more than 530 nautical miles in 24 hours, in the run-up to the race. But that same keel was to let Movistar down during the main event, failing on the leg between New York and Portsmouth and forcing the team to abandon ship.

Perhaps the best place to decipher the real story of the 2006 Ocean Race, however, was in the faces of those who had taken part.

Even the broadest of their smiles, in Gothenburg's pleasant evening sunshine, could not completely mask the memory of an exhausting journey spanning five continents and four oceans.

For month after month the crews had been buffeted, up and down and from side to side, while rocketing along at speeds of more than 30 knots, riding towering waves and then crashing down into troughs before climbing the next. Such impacts have been likened to repeatedly jumping off a table, but with your eyes closed and not knowing where the floor is.







VOLVO SAILORS BURNT UP AROUND 5,000 CALORIES A DAY WHILE AT SEA. PUT INTO CONTEXT, RUNNING A MARATHON DEMANDS SOMETHING LIKE 3,000

Not surprisingly, a ‘traveling clinic’ awaited the racers at each port of call, with a chiropractor standing by.

The competitors suffered cold – with temperatures approaching minus 12 degrees Celsius in the Southern Ocean – as well as sweltering conditions. They also suffered sleep deprivation. Short broken sleeps, indeed, particularly during the longer, 6,000-plus mile legs, became the norm.

Perhaps most extraordinary of all, Volvo sailors burnt up around 5,000 calories a day while at sea. Put into context, running a marathon demands something like 3,000 calories. Replacing those nutritional reserves would not have been easy, with food on board kept to a minimum so as not to weigh down the boat. Much of that food would have been dehydrated. Failure to re-hydrate it properly – easily done by sailors keen to get back on deck – would mean stomach cramps as the food re-hydrated in the crews’ stomach.

That is the true face of an event universally acknowledged to be one of the most grueling and demanding in the sporting calendar. If history can be relied upon, though – and this is an event with more than 30 years of experience – most of those who took part will yearn to do so again.

Even the tragic loss of Hans Horrevoets, who failed to regain consciousness after being swept overboard from ABN Amro Two in the Atlantic during the seventh leg, is unlikely to dissuade them.

His memory will live long among team-mates and opponents alike.

Like them, Horrevoets chose to live Life at the Extreme – the motto of the race – and he, above all others, would have expected them to gather again, in two years’ time, ready to pit human endeavor against the harshest of natural elements yet again, when the Volvo Ocean Race returns to the water.

A Growing Market

ENVIRONMENTAL AWARENESS IS MAKING FOR RELIABLE RETURNS AT ONE SAWMILL IN WESTERN MANITOBA. AND AS BRIAN O’SULLIVAN REPORTS, RELIABILITY IS ALSO THE COMPANY’S WATCHWORD FOR EQUIPMENT DECISIONS.





Ward Perchuk

You don't need to be Canadian to have heard of Paul Bunyan, its legendary lumberjack. Known for his fantastic strength and gigantic size, his prized possession was Babe the blue ox; the distance between its horns measured 42 axe handles! Unfortunately, people with Mr. Bunyan's wood cutting abilities are scarce and so sawmills are increasingly looking to modern machines to deliver the wood 'out of the bush'.

Spruce Products is just such a sawmill. Based in Swan River, in the centre of 'the wood basket' province of Manitoba, the remote location fits the bill of the perfect lumber operation, and the vast forests that surround it are filled with elk, deer, wolves, cougars – and of course moose. But just because the location is remote doesn't mean that Spruce is removed from the modern world – quite the opposite in fact. Spruce is applying the latest technology to ensure that it maximizes its resources and maintain profits in what is generally regarded to be a depressed industry.

"We try to minimize waste and have a vision of using everything we bring into the yard," says Ward Perchuk, the company's president, and a man who has forestry in his veins. "It's not just about producing sawn softwood for construction any more – every part of the tree has a potential economic use." Using high tech scanners, each tree is given a tailored cutting profile, so that the maximum amount of sawn timber is extracted. This philosophy runs to using the thin tops of the tree that are too small to be timber studs being chipped up for sale to the paper & pulp industry. The bark is being used to fire the two enormous boilers that both heat the sawmill and provide the steam for the kilns, (which burn for 42 hours at 180^{o}C (356^{o}F) to dry every batch of sawn softwood). Even the planer shavings are sold as bedding for animals.

The focus for economic advantage is not gained at the expense of the environment, and as much energy is put into managing the forests in a sensitive way. Spruce has a huge renewal program and for every tree that is felled, plants two to replace it – meaning three million trees need planting, at a cost of $1.5 million a year. Trees are not taken from around lakes, and sensitive areas such as calving or nesting sites are avoided. Even how the machines operate in the forest is strictly governed by the Crown, with oil spills reported and cleaned up, and small streams being properly bridged so that the water can continue its eternal flow. The firm is using a Volvo G746 all-wheel-drive grader to keep the 160km (100 mi) of haul roads it cuts each year in a high order for on-highway trucks to be able to draw the timber out. Even these roads are scarified and replanted following that year's cut. In addition, Spruce donates over $80,000 a year to support its twin causes of children and the environment.

Chips to go

Most of the logging is done in the winter, when temperatures drop down to as low as minus 40^{o}C (-40^{o}F) and the ground is frozen hard, allowing the machines to work on what are normally boggy conditions. The timber comes into the yard from a radius of 150 km (90 mi) around the sawmill. When it arrives it is handled by a fleet of six Volvo wheel loaders – an L60E, L90D, two L90C, one L120D and one L120E. The loaders ferry the wood from its raw state around the mill, moving it from stage-to-stage until it reaches its finished form – be that sawn timber, chips, hogfuel for boilers or pet bedding. Mostly fitted with forks, they also have quick hitches for swapping to buckets – the homemade woodchip bucket is an enormous 13m^{3} (17yd^{3}). They are also fitted with Volvo's Boom Suspension System, invaluable around the mill, which can not only be uneven but also be so boggy that the loaders sink up to their axles in mud.

Spruce Products has been buying Volvo loaders since the 1950s from local dealer Westcon Equipment & Rentals Ltd, generally buying one new machine a year from salesman Rod Stacey. With 42 machines sold over 50 years, Spruce must vie to being one of Volvo's most loyal customers. "We don't buy them out of sentimentality," says Ward. "We get the competition in every year to compare, but the Volvo keeps coming up trumps. It's really quite amazing – and this has been going on since the fifties."

"They are so reliable that we don't need a full time mechanic," continues Ward. "In fact our mechanic spends more time operating the machines than fixing them. There's nothing to fix on the Volvos – and if something does go wrong then it's usually operator error that caused it. The fuel consumption is also a major play in Volvo's favor. It never used



to be an issue but with diesel prices rising 40% in the last two years it's a major concern across our business."

Fuel consumption is just some of the information that can be extracted using the MATRIS monitoring system fitted to the loaders. How the operator is using the machine, how many hours run in each gear – even if the operator has put the machine into reverse before coming to a full stop is recorded: helping to highlight to operators more efficient ways to use the loaders. The machines are also fitted with block heaters, bringing them inside at night and plugging them into an electricity supply to keep the block warm, for easier starting during the bitterly cold winter.

The 65 employees are as loyal to Spruce as Spruce is to Volvo, with the average employee working for 15 years. There are no supervisors in the mill, with all the workers swapping over jobs every hour or so to keep things interesting. A generally happy team, any grievances are resolved on the ice rink – the company has an ice hockey squad – the Timber Dogs, made up of employees.

A FOCUS FOR ECONOMIC ADVANTAGE IS NOT GAINED AT THE EXPENSE OF THE ENVIRONMENT

The mixture of environmentalism, modern technology and sound economics is paying dividends at Spruce. They are also a lesson to other industries that caring for our surroundings often makes good business sense too. "We are only harvesting what the forest grows each year – so we will never run out of trees," says Ward. "But since we've bought the trees we don't want to leave any money on the ground!"

GLOBETROTTING

Dubai: A New Wonder of the Modern World

NIALL EDWORTHY and BRIAN O'SULLIVAN found out more

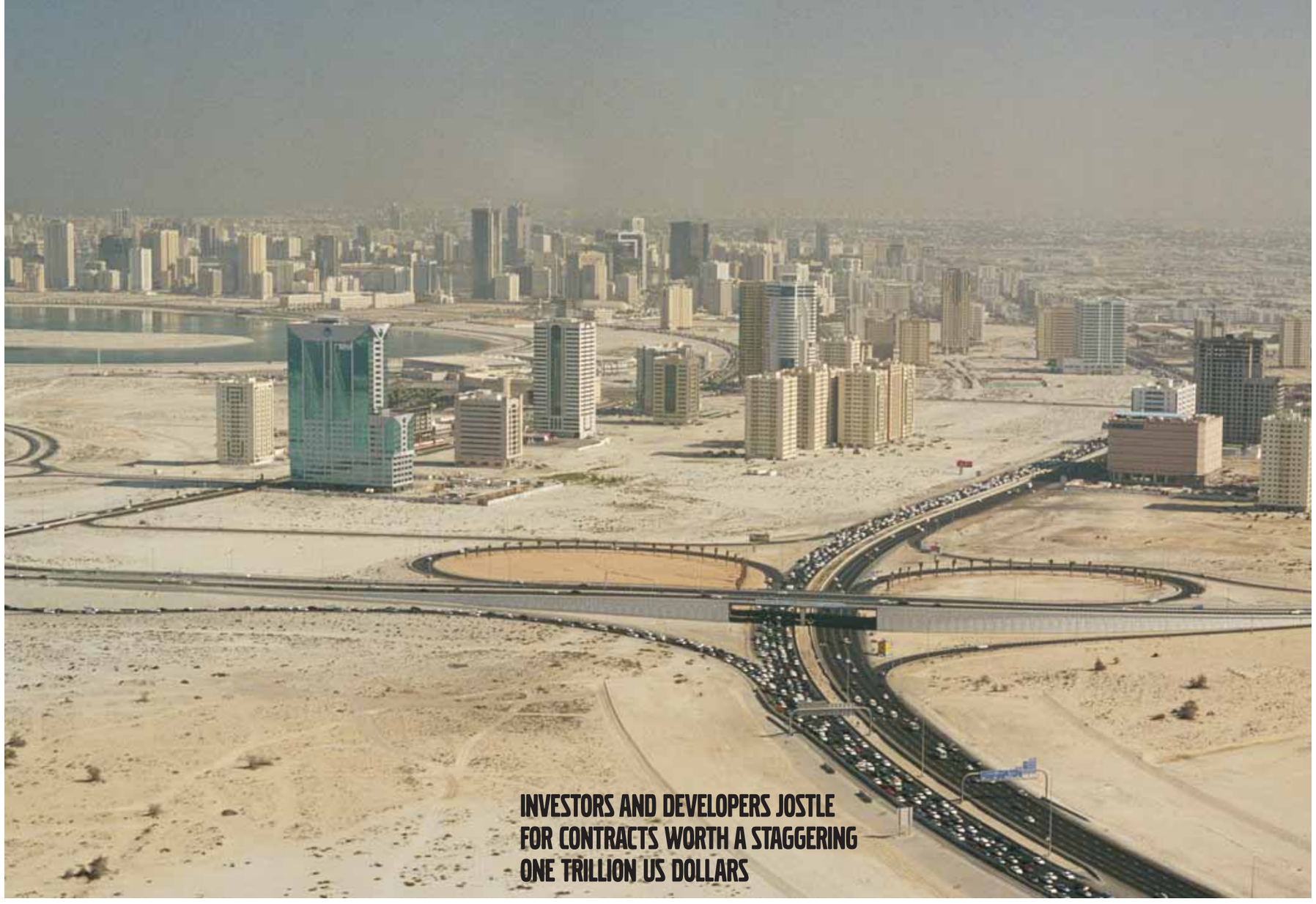
IT IS REMARKABLE TO THINK THAT IN THE SPACE OF A GENERATION, DUBAI HAS BEEN TRANSFORMED FROM A MODEST, LITTLE-KNOWN TRADING PORT TUCKED AWAY ON A CREEK IN THE ARABIAN GULF INTO A SPECTACULAR METROPOLIS, POISED TO BECOME THE WORLD'S NUMBER ONE TOURIST DESTINATION.

Straddling the mouth of a creek and surrounded by an endless expanse of sand dunes, Dubai – the port – was a low-rise community whose people and immigrants made their money by fishing, pearling and trading. A few miles away, Bedouin nomads meandered across the sandy expanses and oases tending their flocks and herds. Before the 1960s, there were no schools or electricity. Who could have imagined back then that today Dubai would have been transformed into one of the great cities of the world with dozens of spectacular skyscrapers standing on the site of the old fishing huts and trading houses?

What makes this surge in development so extraordinary is that this oil-rich Emirate is no more than a tiny dot on the world map. Its entire land mass could fit into the American state of Texas 170 times, and its population is just 1/85 the size of France or the United Kingdom.

The building bonanza continues apace as architects, planners, investors and developers jostle for contracts worth a staggering one trillion US dollars to add stunning new developments to what is rapidly turning into a giant theme park for grown-ups. It has been reported that a fifth of the world's construction cranes can be seen on the skyline running between Dubai and neighboring Abu Dhabi.

Dubai already boasts the world's largest hotel and there are plans afoot to produce the world's first underwater hotel, a ski resort in the desert, an indoor rainforest and a life-size Taj Mahal. The new Jebel Ali International Airport, for the construction of which Volvo is supplying haulers and compact equipment, will have six runways, eight terminals and will process roughly 150 million passengers a year, making it the biggest and busiest airport in the world by some distance.



Volvo construction equipment has been helping to satisfy the enormous demand for crushed rocks by supplying wheel loaders and excavators to local quarries. Four EC460B and two L180 machines have recently been supplied to Demir Export, who operate to the north of Dubai in the quarry zone of Ras al-Khaimah. Sitting on a concession of 25 million tonnes of gabbro rock, Demir Export invested in the new machines in order to meet the demands for faster cycle times and lower fuel consumption.

With 23 rival quarries operating in the same area and in a highly competitive market, the crushing company that can fill trucks faster than the others is always likely to get the bigger slices of business on offer. The trucks make numerous trips each day to and from the various construction sites scattered across the area. At Demir Export, over 6,000 tonnes of rock is being produced each day by the EC460 machines fitted with a 2.1m^3 (2.7yd^3) mass excavation bucket.

When Famco, the local dealer, first started selling Volvo construction equipment back in 1983, they sold just two units in that first year. In 2006, the company, which is part of the Al Futtaim conglomerate, expects to sell over 200, with 55 people involved in running the business.

"We are not just selling construction equipment," says Arif Chishti, the divisional manager for Famco. "Our product is support. We now offer 24-hour support as Dubai is a town



that never sleeps and many projects are working 24 hours. Customers have recognized the benefits of using the dealer – they fix it faster, they manage the inventory instead of the contractor and they can give guaranteed uptime. Any downtime is the dealer's problem, not the customer's."

Famco offers 100% parts availability within 24 hours, and minimizes the impact of downtime by replacing whole sub-assemblies with 'recon' units rather than spending lots of time trying to find the defective component. This frees up engineers to fix problems on site faster for the customer.

Volvo has also been supplying dozens of machines, mainly A40D haulers, to Belgium contractor Jan de Nul for the amazingly ambitious Palm Islands project. This ongoing development is made up of the three largest man-made islands in the world, just off the Dubai coast. Each of the islands – Palm Jumeirah, Palm Jebel Ali, and Palm Deira – has been designed in the shape of a date palm tree fanning out into the Arabian Gulf, a truly spectacular sight from the air. Each island will feature scores of luxury hotels and villas, apartments, marinas, water theme parks, restaurants, shopping malls, sports facilities, health spas and cinemas. The developers have described the project as 'the eight wonder of the world'. Few would argue with that claim except to suggest that the whole of modern Dubai might be described in this way.

Puzzling Popularity of Sudoku

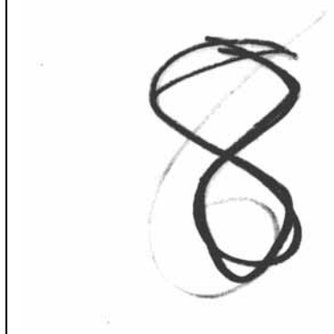
DAN WADDELL explains it all

FOR THOSE WHO HATE PUZZLES OR FOR THE PLAIN INNUMERATE, IT MIGHT AS WELL BE WRITTEN IN SANSKRIT. BUT FOR THOSE FOR WHO HAVE CAUGHT THE SUDOKU BUG, IT IS AN ADDICTIVE, FIENDISHLY DIFFICULT EXERCISE FOR THE BRAIN. SOME STUDIES HAVE EVEN SUGGESTED IT HELPS HALT THE ADVANCE OF BRAIN DISORDERS, SUCH AS ALZHEIMER'S.

Devotees are easy to spot: reading their newspapers or books on the train into work, they suck on their pens, brows furrowed, some even speaking to the blank spaces in front of them, 'You're not a four or a five,' you can hear them mumble. 'But could you be a six. Or an eight.'

Millions of people across the globe have been caught up in the craze; remarkable, considering that before the end of 2004 the puzzle was unknown outside Japan. There it was, and remains, hugely popular: more than half a million Sudoku magazines are published every month.

The man responsible for selling it to the world is retired judge Wayne Gould, New Zealand born but now living in New Hampshire, USA. He came across the puzzle in a Tokyo bookstore in 1997, became hooked and spent the next six years developing a computer program that designed puzzles on demand.



With his new invention, Mr. Gould took to the road like a traveling salesman, selling the game to newspapers eager to refresh their puzzle pages. In October 2004 he turned up unannounced at The Times in London, one of the most venerable newspapers in the world. They gave him a hearing and, to his amazement, agreed to publish a puzzle.

Once it appeared in the Times, it spread across the globe quicker than most viruses. After all, unlike crossword or other word puzzles, it requires no translation, it is easy to grasp, and at lower levels of difficulty at least, does not take forever to solve.

THE RULES, UNLIKE THE SOLUTION, ARE SIMPLE

The puzzle is now a regular fixture in 400 newspapers worldwide, all seeking to add to their sales, while TV and computer game version have sprung up – the puzzle has even appeared on radio, where the numbers were read aloud. Mr. Gould also presided over the inaugural World Sudoku Championships in Lucca, Italy earlier this year, which had more than 100 entrants and was won by Czech accountant Jana Tylova.





The rules, unlike the solution, are simple, although the form can vary widely. A 'classic' Sudoku puzzle is a grid nine squares wide (rows) and nine deep (columns). The grid is further divided by darker lines into nine 3x3 boxes. Some squares already have numbers in them, the player's task being to fill in the blank ones. Each row, column and box must feature every number from one to nine, and, it is here that it starts to get very tricky, each number can only appear once in a column, row or box.

The puzzle's origins seem to be the Latin Square, a mathematic equation involving grids and rows. Taking this as an inspiration, a freelance puzzle constructor named Howard Garns



SOMEWHAT SURPRISINGLY, THE PUZZLE WAS NOT FIRST PUBLISHED IN JAPAN, BUT IN NEW YORK



turned it into a game, asking the player to fill in the gaps and introducing the concepts of 'boxes' and not just columns and rows.

Somewhat surprisingly, the puzzle was not first published in Japan, but in New York by the specialist puzzle publisher Dell Magazines and was called Number Place. In 1984 it was first published in Japan, where it was called originally Suuji wa dokushin ni kagiru, which can be translated as 'the numbers must be single'. In time this was shortened to Sudoku (Su meaning number or digit, doku meaning bachelor (i.e. single.) and a phenomenon was born.



Though some failed players would not agree, experts maintain all the puzzle requires is logic and observation: no mathematical propensity is required, nothing needs to add up. Websites, books and magazines are published in their thousands offering tips and hints to the befuddled and bemused, though two pieces of advice are common to them all: use a pencil not a pen and have an eraser to hand.

Some have dubbed the puzzle the Rubik's Cube of the 21st century, popular with both young and old, international in its appeal. Only time will tell if it is a passing craze, like the cube, or built to last, like the crossword, which first appeared in the early 20th century and is still going strong.

For those who have tired of Sudoku already, or find even the advanced versions too easy, don't worry: even more popular in Japan is Kakuro, and word has it that it's even more fiendishly difficult.





BIG, *Beautiful* and Good for Business

TONY LAWRENCE explains

ORGANIZING VOLVO'S EXHIBITION STANDS AT INTERMAT 2006 IN PARIS, SAYS CHRISTIANE CAMUS-PARDON, WAS A BIT LIKE PUTTING TOGETHER A GIANT PUZZLE.

"It felt like there were about 5,000 pieces involved before we got the whole picture," she says. "It was well worth it, though, even if it took almost a year to complete."

Intermat – or International Exhibition of Equipment, Machinery and Techniques for the Construction and Building Materials Industry, to give it its full name – is held every three years. This April, according to the organizers, it attracted around 209,000 visitors during its six days.

"We started by reserving our exhibition space last March," Camus-Pardon, head for communications for Volvo CE in France, says. That was the start. Then the stars of the show had to be booked – just under 50 construction equipment vehicles and trucks, most of them shipped in from Volvo factories all over the world. Then there were the endless behind-the-scenes details to attend to, from acquiring promotional photographs and films to booking hotel rooms, ordering staff uniforms and hiring caterers, cleaners and around-the-clock security guards. "In the final few months we were working flat out to get the final details right," Camus-Pardon says.

Such huge exhibitions make huge sense. "Initial estimates show that around 80,000 people visited our stands and vehicle demonstrations at Intermat. The feedback we got from those people was that our stands were the best there."

Intermat is one of several major international trade exhibitions where Volvo can showcase its products. Others include ConExpo in Las Vegas, and Bauma in Munich and Shanghai.

Last year, Volvo hired Expotechnik, an international company specializing in managing such large events. "Nowadays, buyers come from all over the world so it's important that the exhibitor is presented consistently all around the world. Our brief is not just about presentation and design, though. We also help with communication and making sure visitors showing interest are contacted again after the show."

Each show, though, does have its local touches. "In Paris, we had "Café Bleu", an area where customers could sit down for a cup of coffee, a juice or other refreshment," says Kristian



Willand, Expotechnik's managing director. "In China, you need more color, more reception space and bigger aisles because of the sheer number of visitors. We hand out product information in large bags there. And in Munich, there are of course other local needs and preferences."

The vehicle demonstrations, though, play a central part everywhere.

"They are really spectacular," says Willand. "In Paris, 300 tonnes of sand were brought in to reproduce a realistic terrain for Volvo's articulated haulers, excavators, motor graders, wheel loaders, backhoe loaders and compact wheel loaders and excavators.

Size can clearly help, when it comes to making an impression. At Bauma in Munich, the Volvo area will be around 2,500m^2 (27,000ft^2) indoors, with a 7,400m^2 (80,000ft^2) outside demonstration area. "It's a big job," he says. "Putting the stands together for the show will take 50 of our employees about two weeks. But the biggest challenge is making sure that visitors do not lose sight of the stands behind the vehicles!"

Garry Rowley, VP Global Marketing Communication adds, "These large events give us the opportunity to clearly demonstrate the benefits to customers of choosing Volvo over other brands. They are an ideal platform to show everything we have on offer and we want people to leave the Volvo stand convinced that we should be on their shopping list."

Intermat is now a memory, but already preparations have started for Bauma China and Bauma Germany 2007…

LIFE THROUGH A LENS

THE SHIP THAT CAME BACK FROM THE DEAD

TONY LAWRENCE reports

Photography: Julian Cornish Trestrail

JUST OVER 20 YEARS AGO, THE WRECK OF AN 18TH CENTURY TRADING SHIP WAS DISCOVERED LYING JUST OUTSIDE THE SWEDISH PORT OF GOTHENBURG. JOAKIM SEVERINSON REMEMBERS HIS FIRST SIGHTING AS IF IT WERE YESTERDAY.



Joakim Severinson

> “It had broken up completely over the years,” he says. “There was broken porcelain everywhere. But the most striking thing was the tea leaves. They had burst out of their casks and spread out over the sea bed, like a thick, green carpet.

“The site hadn’t been touched for around 240 years. It was as if time had stood still.”

In many ways, time has been standing still ever since for Joakim Severinson as well. From that day to this, his life has been inextricably entwined with the story of that ship.

Severinson looks much younger than his 45 years. He laughs a lot and bubbles with an intelligent enthusiasm. Soon after seeing the “Götheborg” for the first time, however, he became infected by a mad idea.

“No, no, it wasn’t my idea,” he smiles in protest. “And it was only slightly mad. Someone else in the excavation team thought it would be amazing if we could build a replica of the ship, that’s all…

“They thought up the idea. I just started doing it. And then I came up with the plan to sail it back to China.”

The East Indiaman “Götheborg” sunk just outside her home port on 12 September, 1745. Loaded with Chinese cargo and within sight of her moorings, she struck rocks, sank and lay forgotten until her re-discovery in 1984.

In July this year, the dream of her rebirth will become reality when the new “Götheborg" – via such stop-overs as Cadiz and Cape Town, Freemantle and Jakarta and after nine months at sea following the 18th century trading route – finally sails into the Chinese port of Guangzhou. Hundreds of thousands of people are expected to fete her extraordinary return.

Perhaps the whole story, indeed, was a matter of fate.

Severinson and his ship seem to have been attracted together as if by magic. As a boy, he had lived by the sea, drawing pictures of ancient square riggers. As a young carpenter, he re-novated his own sailing boat. And, in the most personal link of all, he had met his future wife, a diver herself, while excavating the “Götheborg”.

In 1992 Severinson completed his first technical drawings of the ship, having delved through historical archives. He and a growing band of friends, volunteers, enthusiasts and experts then began to study the practicalities.

“I was interested in the seamanship involved in sailing such a ship – we were not creating a museum piece, after all – as well as the craftsmanship of building it. Everything fascinated me. The toughest part of the journey, though, was always going to be raising the money. I’ve never been a manager and I don’t want to be one, so we had to bring in people to do that,” he says.

The Swedish East India Company (SOIC) was thus formed to organize the project and to approach potential sponsors, whether in local government or in industry.

Before long the first oak trees had been bought and the keel laid. Soon Gothenburg’s Eriksberg shipyard was opened to the public and began to attract people – and donations – in increasing numbers. China’s Deputy Prime Minister Mr Wu Yi was among the better-known visitors.

On June 6th 2003, after around 10 years of struggle, the “Götheborg" was finally launched.

It had taken 4,000m^3 (5,200yd^3) of wood (75% oak, 25% pine), 150 million Swedish Krona (US$ 2 million) and extraordinary reserves of commitment from SOIC staff, local politicians and backers alike to complete. Thousands of people cheered that day as the 58.5m (192ft) vessel slipped back into the water, sporting a flag donated by the King and Queen of Sweden.



Stellan Mjärdner & Joakim Severinson

“THE SHIP CREAKS AS NOISILY AS IT WOULD HAVE DONE ALL THOSE YEARS AGO”

“That is when the ship came alive again,” says Severinson. “That is when we began learning to sail her. Everything about the project has involved reviving knowledge. The sails are hand-sewn from linen, the ropes and rigging are hand-made from hemp. You can’t buy these materials – all were made in the original way.

“Often, we could only find one factory or company in the world which could help us to make these things.

“I knew the ship would be fine, though. We had done so many tests, with models in wind tunnels and in pools. I sailed on the leg between Port Elizabeth and Freemantle, which was just over 5,000 nautical miles, and everything went better than I expected.

“It’s a faithful replica in most ways, but it’s also a modern ship. The cabins, for instance, are exactly as they were in 1745, except for the lighting and heating – and an extra 10cm (4 inches) of head height – we’ve grown a bit since.

“There are state-of-the-art navigation systems and back-up engines – but in rough seas and under sail the ship creaks as noisily as it would have done all those years ago, enough to keep you awake at night!

“It will be a very proud moment for me when she reaches China. They have really taken the project to their hearts there. Would I do it all over again? Why not? You only get one life to enjoy.

“I’m not a dreamer, though. When I decide to do something, I do it. People don’t say I’m crazy now. Well, not so often, anyway.”



Stellan Mjärdner

Contrary to appearances, the 20th century “Götheborg” is not just a ship, says Stellan Mjärdner.

“It’s more than that. It has become a symbol,” he says. “For the Chinese, it represents the friendship between our two countries. For many of us, it also symbolizes Swedish culture and trade. For the companies that backed the project, it is a blank canvas which can be filled in to tell their own stories.”

Mjärdner, president of the Swedish East India Company (SOIC), played a key role in bringing Volvo, one of the project’s official partners, on board. Without sponsors, he says, the project would have sunk without trace.

The “Götheborg”, when not under sail, is powered by Volvo Penta engines. Models of the ship were tested in Volvo wind tunnels and the company also donated funds, as well as management expertise, towards the project.

“It was important to get Volvo as a partner,” says Mjärdner. “If you don’t have Volvo on the project, how can you ask other companies to join? It was a question of confidence.”

Mjärdner, who coincidentally began his business career working on product development with Volvo Trucks, says the project’s corporate backers will get massive exposure in return when the “Götheborg” hosts ‘Swedish village’ trade exhibitions in each of its stop-overs.

“When I took on this job I thought it might be quite relaxing but oh no! When I visited China they rolled out the red carpet and treated me like a state president.

“Superficially, it’s just a wooden ship but for them it’s a huge story. I think we were lucky by getting the timing just right. For the Chinese, I think the craft also perfectly represents their emerging status as a major trading nation, while also reminding them of their commercial importance in the 18th century.

“The ship, though, has engaged people wherever it has gone. More than 100,000 people came to see it in Stockholm. In Cadiz, 15,000 came on board and 50,000 looked on.

“The numbers were even higher in Brazil and South Africa. I’ve found myself dealing with foreign ambassadors and ministers as well as the world media. Our arrival in Guangzhou will be the city’s biggest tourist event of the year. We stay there for a month, then two in Shanghai, with hundreds of thousands of visitors expected.”

The ship, which fired one of its cannons to start the 2005-2006 Volvo Ocean Race, then returns via a new route including Hong Kong, India, the Suez canal and the Mediterranean. Its exact future is still to be decided but plans for new trips are already being drawn up.





THE IMPROVED TORQUE CONVERTER AND ELECTRONICALLY CONTROLLED ENGINE ALSO OFFER SUPREME HILL-CLIMBING CAPABILITIES



The latest generation is more powerful and even easier to operate than earlier models but still manages to meet increasingly tough environmental legislation on reducing emissions. The machines are amongst the most cost-effective loaders ever built for a number of reasons: they are highly dependable, they come with excellent financing packages, their fuel consumption and service demands are low and their resale values are high.

Volvo develops both the engines as well as the machines in-house, which means the designers and engineers have the advantage of being able to adapt and mould the performance of the engine to suit different applications.

The L150E, L180E and L220E Volvo wheel loaders, for example, are powered by a turbocharged, low emission engine, allied with air-to-air Intercooler, electronically controlled fuel injection, overhead camshaft and four valves per cylinder. The operator thus enjoys rapid response from very low rpm, surging from idling mode to 92 percent of maximum torque, while maintaining low fuel consumption and very low emissions. The improved torque converter and electronically controlled engine also offers supreme hill-climbing capabilities. The Countershaft transmission feature means that all the operator has to do to shift gears is select forward or reverse and the APS (Automatic Power Shift) will do the rest, instinctively finding the right gear to match the engine revs and ground speed.

Volvo's in-house engineered axles and drivetrain, meanwhile, keep the machines firmly planted on the ground with the 100% differential lock on the front axle giving superb traction in the most difficult conditions. The wet disc brakes, powerful yet gentle, are hydraulically operated and circulation-cooled. There is also the option of equipping all the models with external axle oil-cooling for machines operating in particularly hot and difficult conditions.

Volvo wheel loaders combine power and precision to excellent effect. Volvo's unique Torque-Parallel (TP) linkage lifting arm system, delivering optimum breakout torque, is incredibly easy to operate, giving the driver total control over attachments at full power. The intelligent, load-sensing hydraulic system ensures that the hydraulic oil is distributed as and when it is needed, resulting in greater efficiency and lower fuel consumption. The same principle is in operation with the load-sensing, hydrostatic steering feature which also saves fuel because it only demands fuel when the steering wheel is turned. The sturdy frame for the secure mounting of components has been designed to reduce vibration and increase service life, while the long wheelbase provides smooth and stable progress on uneven surfaces.

Whenever Volvo designers start work on a new machine they do so with the operator in the forefront of their minds, recognizing that the more comfortable they make the climate in the cab, the better the operator will work. The system by which all the air entering the cab is filtered twice makes the Volvo cabs the cleanest on the market by some distance. The operator working in especially dusty conditions also has the option of re-circulating the filtered air instead of taking in air from the outside. The Volvo cab is also one of the quietest available, thanks to its viscous cab elements and highly effective sound insulation, meaning the operator is less tired at the end of his shift.

Wheel loaders are the workhorses of the construction equipment world, made to work in the toughest conditions, often around the clock. In order to guarantee minimum downtime, Volvo offers warranties and service systems adapted to the machine and the general conditions in which it will be working. Volvo also offers a wide range of attachments, wear parts and optional equipment, designed for use in all manner of tough environments from handling timber to breaking out hard and rocky materials.

Care for the environment has long been one of Volvo's core values and with the new generation of diesel engines Volvo has made even greater progress in reducing emissions without any significant decrease in engine power. This entirely new generation of engines makes the most of every single drop of fuel in the tank. The secret behind this achievement lies in the V-ACT (Volvo Advanced Combustion Technology) that features an advanced method of fuel injection, electronic



VOLVO IS KEEN TO ENSURE THAT AS MUCH AS POSSIBLE OF ITS PRODUCTS CAN BE RECYCLED

control of engine operation and an intelligent system for exhaust re-circulation. Naturally, Volvo is keen to ensure that as much as possible its products can be recycled. Through the Parts Exchange Programme, components such as the engine, transmission and hydraulic system are re-engineered and re-used, making the machines 95% recyclable.

Volvo wheel loaders, in short, have all the ingredients for a prodigiously efficient, highly productive, cost effective machine that is gentle both on the operator and the environment.



OPERATOR CORNER

THE SULTANATE OF OMAN IS A MOUNTAINOUS LAND ON THE SOUTHEAST COAST OF THE ARABIAN PENINSULA. SINCE 500 BC ITS WEALTH HAS COME FROM ITS KEY POSITION ON THE TRADE ROUTES BETWEEN INDIA, EAST AFRICA, SOUTH EAST ASIA AND CHINA – THE HALFWAY POINT BETWEEN EAST AND WEST, NORTH AND SOUTH. NOW AGAIN, WITH THE GROWTH OF ENORMOUS CONTAINER VESSELS CARRYING PRODUCE AROUND THE GLOBE, THE COUNTRY'S PORT CITY OF SALALAH IS EXPANDING TO KEEP UP ITS POSITION AS ONE OF THE WORLD'S GREAT STAGING POSTS.





"IF I DON'T COME TO WORK I START TO FEEL UNWELL!"

At the sharp end of extending the port's berth area by a cool 1 km (0.6mi) into the Arabian Sea is G. F. Hassan Alawneh. Deeply tanned and with film star good looks, the 42 year old Hassan not only has to operate one of the eight new Volvo EC460s on the project but also be responsible for the 120 other equipment operators on the quarry site who share his shift. For it is the quarry that is the key element of this project – finding enough stone to create the 1km (0.6mi) long, 345m (1,130ft) wide and 18.5m (60.7ft) deep berth is a four million m^2 (43 million ft^2) exercise of mammoth proportions. And that's not to mention the 600,000m^2 (6.46 million ft^2) of concrete that is also needed.

But Hassan isn't worried by the pressure: "I live to work here," he laughs. "It's part of my blood – if I don't come to work I start to feel unwell! I even bring my little son and daughter down to the quarry to show them how we are getting on!"

After a career on site spanning 22 years, Hassan – who is originally from Jordan but lived in Oman for the last 16 – has driven every type of construction equipment from every manufacturer. He is now working for the joint venture of Consolidated Contractors Co. (CCC) and Hani Archirodon. "He is our Master Operator," smiles Constandi Khoury, the equally charismatic land works manager for this epic project. "Hassan can operate any machine we give him – and he also tests new operators to make sure they come up to standard. He has even helped us find good operators in his homeland of Jordan. His work is keeping bad practice and breakdowns to a minimum."



"WITH THE NEW VOLVO I CAN JUMP DOWN AFTER A FULL DAY ON THE MACHINE COOL AND RELAXED – NO SWEAT!"

As the senior operator, Hassan gets to pick the machine he operates. "On the old machines without cabs it's hard to keep concentrating for more than a few hours – especially in the summer when the humidity is high and temperatures can get to 50°C (122°F)," says Hassan. "With the new Volvo I can jump down after a full day on the machine cool and relaxed – no sweat!"

When Hassan's family can drag him away from the work he evidently loves, they like to go walking in the mountains, whose beauty in the monsoon season is transformed from an arid desert into a green and lush oasis, where coconuts, bananas and papayas grow. But it will only be a brief respite before he gets back working on making more space for the world's produce to come into dock.

VOLVO AROUND THE WORLD

Volvo Adventure competition

The first prize in the Volvo Adventure 2006 competition went to Koç School from Istanbul. The team's four youngsters produced school desks from recycled juice and milk boxes.

Volvo Adventure is an educational program in environmental know how and is a cooperative project run jointly by the Volvo Group, Volvo Cars and the United Nations Environment Program (UNEP).

The participants are aged between 10 and 16 and 350 teams from 41 countries took part in this year's competition. The ten best went through to the finals in Göteborg, Sweden. The jury elected the Turkish team as the winner.

The team's four youngsters produced school desks from recycled juice and milk boxes. In an intensive collection campaign, they gathered almost one tonne of containers which they then sent to a recycling company that transformed them into desktops for 30 school desks. The desks were donated to schools in underprivileged areas. The local council and several political institutions have now decided to invest in the manufacture of school desks from recycled materials, and several thousand schools are expected to be involved in the project within the next two years.

AB Volvo to develop third-generation DME engines for heavy vehicles

The energy authorities in Sweden have now granted AB Volvo SEK 62 M (8.45 M $US) in support for technical development of the third-generation DME engine for heavy vehicles during the period 2006-2010. The project will deliver automotive technology for a major field test with DME-powered trucks planned for the years 2009 and 2010. AB Volvo is also investing a large amount in the project.

A small field test will be initiated already in slightly less than a year with trucks based on the second-generation DME technology, which was presented in 2005.

Volvo's own studies have shown that DME has potential to become a competitive alternative to today's fossil fuels. One of the most significant arguments for DME is that it is the alternative fuel with the highest energy efficiency and among the lowest in emissions of carbon dioxide and particles. DME is Dimethyl Ether, a fuel that becomes liquid at relatively low pressure. It is produced through gasification of various renewable substance or fossil fuels.

Volvo Trucks to arrange the world's largest competition for workshop personnel

The world's largest competition for workshop personnel is about to get underway. The organizer, Volvo Trucks, is hoping for at least 12,000 participants from all over the world. The goal is to raise the level of competence of the personnel as well as the status of working as a mechanic.

A competition for workshops has existed in Sweden for 50 years, but it became global in 1977 and took on its current form and the name VISTA. Its purpose is to develop the competence of personnel working in the service workshops. The competition consists of theoretical and practical exercises in which the participants' skill and knowledge of trucks and heavy engines are put to the test.

Today's modern trucks contain a great deal of sophisticated electronics and systems that put significant demands on the service staff.

The global final will be held in Gothenburg in June, 2007. Thirty competing teams, consisting of two to four participants each, will have qualified for these finals. The finals are decided through both theoretical and practical competitive tests.

Order for 64 Volvo buses to Bus Rapid Transit in Brazil

Volvo Buses received an order for 64 buses for the Bus Rapid Transit system in Curitiba, Brazil. Forty of these buses are Volvo's 25-meter bi-articulated buses with space for 270 passengers.

An increasing number of cities throughout the world are choosing to solve their transport problems with the aid of smart bus-based systems for public transport called Bus Rapid Transit, or BRT. A modern BRT system has the capacity to transport as many people as a rail-based system, but the investment cost is only 5 to 10 percent compared with a streetcar or subway system. In addition, the lead-time from decision to the initiation of services is much shorter with a bus-based system.

"One of Volvo Buses' core values is environmental awareness," says Per Gabell, head of Volvo Buses in South America. "Buses with greater passenger capacity mean fewer buses on the roads thereby producing less exhaust emissions and lower fuel consumption."

VOLVO

PIERRE'S NEW VOLVO FE



Whatever business you're in, the all-new Volvo FE delivers in a big way. Its innovative, 7-litre Euro 4 engine at 240, 280 and 320hp is a technologically advanced, new-generation powerhouse built to set new standards in productivity and reliability. The FE offers a flexible chassis range, available at 18 and 26 tonnes, which combines Volvo's famous dependability with a choice of modern functional cab options. The result is a heavy-duty performer that not only impresses on the road, but on the spreadsheet too, improving the Total Performance of your business in every sense. The new Volvo FE – go for it at your Volvo Truck Dealer today.



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