

SPECIAL REPORT PMV TAKES A LOOK AT THE MIDDLE EAST MARKET FOR SKID-STEERS AND COMPACT LOADERS – THE ‘SWISS ARMY KNIFE OF CONSTRUCTION MACHINERY’

PMV

MIDDLE EAST

PLANT • MACHINERY • VEHICLES

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December 2017 / Volume 11 / Issue 12

LOW FRICTION
Developments in
oils and lubricants

HEAVY LIFTING
Luffing jibs enjoy a
rise in popularity

SIMPLIFI-CAT-ION

Caterpillar rationalises the range of platforms, cabs and parts on its next-generation excavators, promising greater operator and fuel efficiency and reduced maintenance costs



PLUS

NEWS ANALYSIS **HOT MACHINES** **THE LAST WORD**



POWERHOUSE

The 48 tonne EC480D has been built to dig as efficiently as possible. Superior cycle times are backed up by improved fuel efficiency to make this machine a real powerhouse on site. The Volvo D13 engine works together with the advanced hydraulics to deliver dependable power with high torque. When it's supported by superb Volvo aftersales services, the EC480D gives you the power to dig – and keep on digging.

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FRONT

6 In the news

The month's major industry plant stories are here.



6

10 Network

The companies making news in the machinery market.



10

12 Handling the work

JCB launches a new higher output telehandler.



12

13 Into the future

Mercedes-Benz gears up with electric vans.



13

18 Going, going gone

Ritchie Bros explains online auctions in our guest comment.



18

CONTENTS

DECEMBER 2017
VOLUME 11 ISSUE 12



27

FEATURES

14 Oiled up. How to avoid machinery problems with a maintenance strategy.

20 Cool for Cats
Caterpillar plans to streamline and simplify its machinery.

27 Wheels or tracks?
The skid-steer and compact loader market is on the move.

38 Luffing all the way
One of the world's largest tower cranes is being used in Dubai.



36

■ **"A crane of this size, with the reactions of the base, needed a lot of engineering work to make sure that it was capable of withstanding the forces..."**

BACK

44 Peak performance
Dubai Police and MAN team up for safety.

48 Hot machines
Raimondi's new heavy lifting tower crane.

46 Peak performance
Emirates Transport rolls out electric school bus.

49 Loading up
Hyundai unveils new wheel loader.

47 Driving force
Scania delivers gas engine for long hauling.

50 The last word
NFT supplied cranes aid Silicon Park development.



44



46



48



49

By Martin Cooper

IT'S A COMPACT WORLD



Small, compact and versatile loaders take centre stage in this issue, along with new machines and Cat's plans to simplify its main product offering.

Welcome to the December issue of *PMV*, which I have the pleasure of editing on a temporary basis while the publication seeks to appoint a new full time editor.

Having previously visited and worked in the Middle East, I am never surprised at how easily and readily the region's plant equipment sector is willing to adopt new technologies and ways of doing things.

A case in point is the online machinery auction, recently brought to the UAE and discussed in length in this issue's guest comment feature.

Compact loaders and skid-steers are the focus of this month's special report. These highly versatile and manoeuvrable machines have always been a popular piece of kit in the Middle East, and the region remains to this day one of the largest markets for compact equipment.

Users like the way the machines can be used for numerous tasks, as a raft of attachments can be fitted, allowing them to operate in construction, utility works, agriculture and industrial sites, to name but a few applications.

We also report on what kind of machine is best for the Middle East and its particular type of terrain and environment. Two types

are generally sold, either a wheeled loader or a tracked loader. Both have their advantages and we investigate which one is best for various applications.

As well as compact machines, we also feature the cranes being used on one of the region's largest building sites – Brookfield Place in Dubai.

The project is using the world's largest luffing jib tower crane, brought to the UAE from Australia and proving that we also inhabit a compact world in terms of sharing technology and equipment.

Our cover story is a report from Spain where Caterpillar recently announced its plans to simplify its equipment product lines with a more streamlined approach to manufacturing and nomenclature.

In the November issue of *PMV* the editor's letter alluded to the winds of change sweeping across the Middle East's plant equipment sector in the not too distant future. These changes will more than likely include electric vehicles and more environmentally-friendly machines.

Even though the Middle East is the world's leading oil producing region, electric vehicles are being embraced and an electric school bus has been trialled in Dubai.

Our news and peak performance pages, report on this bus as well as other innovative solutions, from greener engine technology to new machines with higher efficiency and better ergonomic controls.

The *PMV* sector never sleeps and technology is continually evolving. From compact loaders to the largest earthmoving kit, our content proves that plant owners and operators throughout the Middle East can expect to have the highest quality, the best performance and the most economic fuel efficiency available.

Enjoy the issue. **PMV**



The Middle East is a big market for compact equipment.

PMV

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FRONT

THE MONTH IN THE PMV INDUSTRY

AUCTION

RITCHIE BROS LAUNCHES NEW WAY TO BUY AND SELL EQUIPMENT IN UAE

IronPlanet, the online equipment auction site has been rolled out in the UAE.

Ritchie Bros, the Canada-headquartered heavy equipment auctioneer said that the move enables the Emirates' plant, machinery, and vehicles community to access a range of new user-friendly services.

Following the IronPlanet's UAE introduction at the beginning of November, local users are now able to sell units without transporting them to a centralised facility. They also have the option to sell items for a fixed price, negotiate offer, or set a reserve.

Buyers are able to virtually inspect items online, and review

detailed inspection reports completed by qualified inspectors. Equipment sold through IronPlanet is backed by the site's 'IronClad Assurance', which guarantees the accuracy of each inspection report.

Karl Werner, Ritchie Bros' international president, said: "Since IronPlanet launched in the United States 18 years ago, it has become a leader in online auctions and marketplaces.

"With IronPlanet, we're now offering a true multi-channel solution for our customers, with options to sell, buy, and list equipment when, where, and how they want – whether onsite or online," he added.

SUVS

TOYOTA STEERS TO ADRENALINE RUSH

The Dubai International Motor Show provided Toyota with a chance to give visitors a rare opportunity to test their skills on a 4x4 desert adventure.

With the promise of unprecedented thrills, off-road enthusiasts and fun seekers were invited to an adventurous experience that put the Toyota Xtreme line-up consisting of Land Cruiser, FJ Cruiser and Fortuner, 2018 Prado and the new Hilux TRD to the test under some extreme but fun conditions.

Made up of six different



Toyota's SUV lineup were available for an adventurous 4x4 off-road test.

obstacles, the Toyota 4x4 adventure took participants on an eight-minute adrenaline-charged ride that highlighted the off-road capabilities of the SUV line-up.

Starting off, the vehicles had



This year Ritchie Bros has sold more than 5,500 items of plant at its Dubai site.

Ritchie Bros announced its intention to acquire IronPlanet in 2016 and the deal was finalised earlier this year. The UAE introduction of the online marketplace is expected to complement the auctioneer's local onsite auctions.

"Today's customers are much more comfortable with the online sales experience. In 2016, roughly half of the equipment sold in our

onsite auction was sold to online buyers," said Werner. "Our goal is to be a one-stop shop for all asset management and disposition, as well as providing buyers with the largest selection of equipment available anywhere in the region."

Ritchie Bros has been operating in the Middle East's used-equipment market for more than 20 years.

a breathtaking ride over steep inclines and declines, traverse a 34-degree steep angled surface before finally crossing a water obstacle.

Saud Abbasi, managing director of Toyota at Al-Futtaim Motors said: "In the previous edition of Motor Show our outdoor stand was a great success attracting thrill seekers from across the UAE. This year, we pushed the limits by showcasing the unmatched off-road capabilities of not just one but most of Toyota's SUV lineup on the six-obstacle adventure track."

06 News
10 Network
12 News

14 Oils feature
20 Comment
26 Caterpillar

18

Number of years since IronPlanet was launched

ENVIRONMENTAL

RSK GETS IRAQI ACCREDITATION

Risk assessment consultants RSK has been awarded accreditation by the Iraq Ministry of Health and Environment as a certified firm for undertaking environmental protection work.

The three-year licence awarded under Iraq's Regulation No.3 of 2014 grants RSK's environmental office in Basra, endorsement to present environmental impact assessment reports in the field of protecting and improving the environment.

RSK is the first non-governmental environmental bureau to be approved by the Ministry of Health and Environment for these studies. The UK-headquartered environmental consultancy has had a permanent base in Iraq since 2012.

Using a large fleet of plant machinery, RSK undertakes a



RSK uses an extensive range of plant equipment for its work.

broad range of environmental consultancy and technical services operations. This includes oilfield cleanup and land remediation

operations, environmental impact assessments and baseline monitoring, waste management services and facilities, soil and

groundwater investigations, and geotechnical analyses on major infrastructure projects and oil and gas sites.

RSK chief executive officer Alan Ryder said: "I have always seen great opportunity in Iraq, both for RSK and for the country, as we assist with its cleanup. Receiving this certification is another significant milestone for us and something that many of the team has been working towards for several years."

RSK's regional managing director Fergus Collie added, "The award of this important licence presents a major milestone for our operations in Iraq and helps in fulfilling our ambitions as a local business delivering high-quality accredited services to our Iraqi and international clients throughout the region."

MATERIALS HANDLING

BOBCAT LAUNCHES NEW TELEHANDLER OFFERING

Providing a maximum lift capacity of three tonne and a top lift height of nearly 7m, Bobcat's new TL30.70 compact telehandler is said to have been designed for a wide range of construction and rental sector applications.

Bobcat said the TL30.70 provides an excellent compact and cost-effective alternative to larger 7m lift height capacity models, particularly on confined work sites where manoeuvrability is important.

Having a more compact machine has not compromised performance, as the company added that the new telehandler offers an outstanding maximum reach of 4m with a load of more than one tonne. At the maximum lift height, operators can lift up to two tones, which is usually sufficient to place a pallet of bricks

in most conditions.

Offering compactness coupled with good stability, it is claimed that the TL30.70 is the perfect tool for easy pick and go or for lifting materials on housing and commercial property developments.

Like all Bobcat telehandlers, the new machine has a heavy-duty hydrostatic transmission that is said to allow smooth and precise low speed travel, with the ability to immediately go faster or work harder when required.

The machine is fitted with the Bobcat auto-shift transmission which automatically adapts the motor torque and speed to the desired level for each specific job. The company said this gives operators the added benefit of not having to take their hands off the joystick to change gear.



Importantly, the machine's transmission is also equipped with an inching function that is said to allow the operator to be extremely precise in low speed applications without having to use the brakes. This is claimed to reduce fatigue and improve on site safety.

Bobcat said it has designed all

of its telehandler models with the same robust box-welded frame that gives them enhanced rigidity. A shielded bottom plate protects vital components, while a combination of high-tensile steel, U-welded shapes, integrated boom head, a new generation of wear pads and larger bolts are all said to contribute to a machine with reduced running costs.

Other features include an all-in-one ergonomic joystick, that is said to ensure all boom functions and travel direction are permanently in the hands of the operator, and an automatic parking brake, which is claimed to be a unique feature for this type of unit.

Powered by a Perkins diesel engine delivering 100 HP, the TL30.70 is part of Bobcat's range of 12 telehandler models.

AUCTION

DEUTZ ENGINES APPROVED FOR ALTERNATIVE FUELS

In line with its push for more environmental units, engine manufacturer Deutz has approved the latest generation of its TCD range for operation with alternative fuels.

Deutz claimed the move will make a further significant reduction to the carbon footprint of combustion engines and the company even raised the prospect of running such engines on a carbon-neutral basis.

For Deutz, this is said to represent “the next logical step” in its efforts to develop sustainable and efficient drive systems. In combination with the electrification of its engine portfolio under the E-Deutz strategy, it said it was aiming for market leadership in the field of innovative drivetrains.

Deutz said that sole use of electric motors was already a viable option in the low power output range, but for medium and heavy-duty applications,



■ *Deutz said alternative fuels are key to future engine development.*

such as construction equipment or tractors – there was as yet no suitable replacement for the combustion engine as the primary source of power.

Electrification could improve efficiency as part of a hybrid system and allowed for a downsizing of the combustion engine, while there was still considerable potential for improving the eco-friendliness of conventional engines by choosing different fuels.

Markus Schwaderlapp, head of research and development at Deutz, said, “For us as an engine manufacturer, alternative fuels are a key component in our innovative drive system mix.

“We believe that e-fuels offer a lot of potential for running combustion engines on a carbon-neutral basis. We are therefore looking to combine the benefits of combustion engines – robustness, mobility and flexibility – with those offered by electric drives.”

ROUNDUP

IN BRIEF

Austrian loader crane manufacturer **Palfinger** has expanded its range with the launch of the PK135.002 TEC. It can be equipped with three different fly jibs, which allow it to achieve reaches and lifting capacities above its expected range. The company said the crane has been specifically designed for trucks in the utilities market.

CNH's **Iveco** Daily Blue Power has won the International Van of the Year award for 2018. This is the third time the van has won the award since 1992. Chosen from five contenders, the Award's jury said the Daily Blue Power stood out for its technical innovation, sustainable solutions and efficient running costs, which are said to be among the lowest for this category of van.

EARTHMOVING

TAKEUCHI UNVEILS LATEST MINI EXCAVATOR

The new TB2150R is Takeuchi's first fixed boom 15 tonne excavator, a conventional arrangement providing a familiar operation for excavator users.

The TB2150R is also available with mono boom or two-piece and comes without a dozer as standard, which is said to make it a competitive conventional addition for any plant fleet.

Takeuchi said when it moved into the 15 tonne league last year with the offset TB2150 many construction plant professionals were keen to see the fixed boom alternative. First impressions the company said, have been very positive.

The TB2150R comes complete with the latest Deutz turbocharged engine for more power and greater torque. Breakout capability is improved



■ *Takeuchi's small unit offers a big performance.*

with bucket force at 98.7kN and arm digging force at 64.9kN.

Designed to maximise operator performance, the relatively short tail is designed to cope with the most compact working areas. The short arm provides a significant 8,195mm reach coupled with a powerful lifting capacity and fast work cycles.

With significant dig depth of 5,530mm and a

dump height of 6,815mm, Takeuchi said the new TB2150R has excellent operating parameters.

With improved hydraulic flows and three auxiliary lines as standard, the TB2150R can operate with a greater range of attachments than previous models.

The machine's hydraulic hoses have been positioned to prevent damage from attachments, while standard front mounted LED work lights and a reversing camera with in-cab display improve job site safety.

Spring applied brakes on travel and slew motors are hydraulically released for a safe reliable brake performance.

Other safety features include boom and arm holding valves with audible warning as standard, which help maintain load control in the event of a hose failure.

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NETWORK

MOVES BEING MADE IN THE WORLD OF MANUFACTURERS, DISTRIBUTORS & DEALERS

HEAVY EQUIPMENT

AL-BAHAR LINES UP CAT MACHINES FOR BIG 5 HEAVY EVENT

Construction machinery giant Caterpillar along with Al-Bahar, its exclusive dealer in the region, will take part in the Big 5 Heavy, the Middle East's largest event dedicated to the infrastructure and heavy construction industry.

Held at the Dubai World Trade Centre, Cat machinery will be showcased by Al-Bahar at what is expected to be the biggest stand at the exhibition.

Confirming its participation, a spokesperson at Al-Bahar said: "We are seeing a revamp in new infrastructure projects and large-scale developments in the region supported by the local Governments as they pursue economic diversification goals.

"Rapid population growth, international events like Expo 2020, and investments in a variety of sectors, including hospitality and mining, are



The Big 5 Heavy event runs from 26 to 28 March.

boosting heavy equipment's sales in the GCC, so we feel this is the right time for us to reinforce our leadership in the market.

Cat promises to exhibit machinery for a wide range of applications, including construction, earthmoving, mining and road building.

TRUCKS

FORD LINE-UP REAFFIRMS MARKET COMMITMENT

Ford's appearance at the Dubai International Motor Show underscored its commitment to the region as well as to the truck and SUV sectors as it showcased new models for 2018.

Top billing went to the new generation 2018 Ford Expedition, which is said to redefine the full-sized SUV segment.

Powered by a second-generation 3.5-litre EcoBoost twin-turbo engine with up to 400hp, the vehicle is said to feature a staggering 40 new features and technologies.

It is claimed to be the smartest, most capable and most adaptable SUV ever launched by Ford.

"Ford trucks and SUVs have a storied history, and have proven time and again the company's ability to set benchmarks for innovation and quality," said Jacques Brent, president of Ford Middle East and Africa.

"Ford has always been at the forefront of both the truck and SUV markets, and we're committed to remaining at the top. A few weeks ago, we



Showstoppers: Ford's complete SUV and truck line-up.

announced that we had reallocated \$7 billion from our car projects to developing our SUVs and truck ranges."

Also on the Ford stand was the new 2018 F-150 pick-up, which is said to be tougher, smarter, and more capable than previous models. The F-150 is said to have the most advanced powertrain line-up ever, delivering best-in-class towing and payload for the Middle East's pickup drivers.

The new F-150 can tow up to six tonne due to its 3.5-litre EcoBoost twin-turbo V8 or enhanced 5.0-litre V8 engines.

DISTRIBUTION

COMPRESSORS FOR JORDAN



The compressors are said to only need a service every 500 hours.

US-based construction equipment manufacturer Chicago Pneumatic has secured a contract to supply its Red Rock range of portable air compressors to Jordan.

Placed with its authorised local distributor, Sakkab Newport Trading (SNT), a total of 15 compressors and 15 pneumatic breakers, to be used in road maintenance works, have been ordered by the Municipality of Greater Amman.

It allowed SNT to enter its tender process after testing a single Red Rock portable compressor for six months. This was to ensure the machines and SNT met the technical, after-sales and customer service requirements the Municipality demands.

During the exercise, operators were said to have been impressed by how tough the compressors was, despite it weighing less than 750kg.

The Red Rock range of compressors is designed with a polyethylene canopy that is said to both protect vital internal working parts from extreme conditions and make the unit lightweight.

The compressors are said to be easy to maintain, with a simple to follow process ensuring maintenance takes a matter of minutes, not hours. No special tools are required and a service is only recommended once a year.

VEHICLE ASSEMBLY

RENAULT TO ENTER PAKISTAN MARKET

French automotive giant Renault and the UAE's Al-Futtaim have signed contracts confirming their commitment to assemble and distribute vehicles in Pakistan.

The definitive agreements will see Renault assemble vehicles in the port city of Karachi.

Al-Futtaim's recently formed subsidiary, Al-Futtaim Automotive Pakistan, is expected to implement the agreements.

No details have been revealed as to which vehicles will be covered by these agreements, but Renault said it would be bringing its products and technical know-how to the business operation, which will set new benchmarks

for quality and safety.

Construction work on the Karachi plant is expected to begin early in 2018, with car sales starting approximately 12 months later.

Fabrice Cambolive, vice president, chairman of the Africa Middle East India region of the Groupe Renault said: "We are delighted to extend our international footprint to Pakistan, a fast growing market with a 10% annual growth rate.

By partnering with Al-Futtaim, a very professional and renowned automotive partner, Groupe Renault aims to become a major player in Pakistan."



■ Fabrice Cambolive, Groupe Renault and Len Hunt, Al-Futtaim.

Len Hunt, president of Al-Futtaim Automotive commented: "With a population of over 200 million, a fast-growing economy and a vibrant middle-class,

Pakistan is undoubtedly a very important strategic growth market for us.

"We will endeavour to add real value to the Pakistani auto sector."

AIR POWER

ATLAS COPCO REBRANDS CONSTRUCTION DIVISION

Swedish equipment manufacturer Atlas Copco has announced a rebranding of its Construction Technique business area, which will now be called Power Technique.

The company said the reason for the change of name was down to its customers recognising power as the integral characteristic of the core product categories, which include air compressors and generators.

The business area will serve multiple customer segments including construction, industrial, drilling, oil and gas and petrochemicals. The brand change is effective immediately, said the company.

Andrew Walker, business area president at Atlas Copco power technique, said: "We will continue to provide on-site power solutions and associated products to thousands of construction sites around the world."

He added that the name change reflected its increased offerings.



■ The rebranding exercise will allow customers to easily identify Atlas Copco's market-leading core compressor and generator products.

Moving forward, the power technique business area will offer a core portfolio of products including portable compressors, generators, light towers and pumps along with dedicated construction products including handheld pneumatic, electric and hydraulic tools and compaction and concrete products.

In addition, it continues to provide products and customised solutions for drilling, oil and gas and geothermal exploration applications, among many others, according to Atlas Copco.

From 2018, Atlas Copco will launch a new division dedicated to power and flow, which it believes will accelerate innovation and

product development within these technologies.

Walker said, "The power and flow division is to be established with the objective to accelerate growth.

"Creating this division will better reflect the development needs of our portfolio and aligns with the focus and expertise needed for our customers."

The rebranding exercise comes hot on the heels of Atlas Copco launching its new range of lightweight and versatile air compressors.

The new 8 Series are said to be designed specifically for integration into utility trucks, and other construction, drilling and mining related applications.

Atlas Copco said the compressors have a footprint that is 10% smaller, on average, than comparable machines.

In addition, all models weigh below 750kg, including those with the option of a built-in Atlas Copco generator.

MATERIALS HANDLING

JCB LAUNCHES HIGH OUTPUT HYDROSTATIC TELEHANDLER

JCB has unveiled a new version of its six tonne capacity Loadall 560-80 telescopic handler. The AGRI Pro version now features hydrostatic drive as well as the company's DualTech Variable transmission, all of which is said to make the machine ideal for both bulk handling and agricultural work.

The all new transmission is said to provide the best of both worlds, in so far as it allows driving and control using hydrostatic and powershift elements that work seamlessly and automatically.

JCB claimed the new version is particularly suited to a role on commercial bulk stores as a high productivity machine for stockpiling, re-handling and general loading. The Loadall 560-80 can lift 6,000kg and can handle a 5m³ grain bucket.

The machine is said to combine a heavy-duty implement carriage and Z-bar linkage that converts



■ The 560-80 handler is said to offer higher productivity than previous models.

hydraulic power into high breakout force, giving the Loadall 560-80 the ability to perform rapid load discharge and an 8m-high lift height capability.

Power is derived from a 108KW JCB EcoMAX engine and a 140-litre/min hydraulic package,

which is said to ensure there is no shortage of driving force.

The manufacturer claimed that in comparative tests, AGRI Pro handlers have delivered up to 25% higher repeat cycle productivity than competitor machines and a 16% advantage when towing.

DRILLING

NEW RANGER ON THE BLOCK

With more than 50 years experience in the sector, Sandvik has added to its machinery portfolio with the expansion of its Ranger DXi series of drilling rigs.

Offering several new features, the new DX900i drilling rig is said to represent a totally new generation of Ranger product as this machine has higher fuel efficiency making it the most powerful top hammer drill in its class.

Ranger DX top hammer drill rigs have a counterweight revolving superstructure for stability and drilling coverage.

Sandvik said these features make them ideal for job sites with the most challenging conditions,



■ Operator comfort and low cabin noise are key features of the new Ranger.

The Ranger DX900i has a 290-degree reach, enabling drilling coverage of 55m². This is said to save working time as it minimises the need to reposition the rig.

Despite the rig's ability to rotate, its counterweight structure

ensures stability by maintaining weight opposite the boom. Ranger DXi rigs are claimed to be extremely mobile, due to a low centre of gravity.

Low cabin noise is said to be achieved with the new iCab.

ROUNDUP

IN BRIEF

UK-based site dumper manufacturer **Thwaites** has celebrated 80 years of production at its Leamington Spa plant. It said it aims to continue to lead the market as it heads into the next 80 years.

Himoinsa is the official power supplier for the Dakar 2018 rally. It will install a total of eight generator sets with capacities from 50Hz to 60Hz at various sites along the route from Peru to Argentina.

Caterpillar has introduced its first-ever Cat utility vehicles – the gasoline-powered Cat CUV82 and diesel-powered CUV102D. Cat said it gathered extensive customer and dealer input prior to building the units.

John Deere has expanded its lineup of attachments with upgrades to its planetary auger models. The new PA15B and PA30B augers are said to be ideal for compact excavators and four-wheel drive loaders.

CNH Industrial's New Holland Agriculture manufacturing facility, in New Holland, Pennsylvania, USA, has been certified Bronze Level in the World Class Manufacturing programme.

Doosan Construction Equipment will debut its DX140LCR-5 15 tonne reduced tail swing crawler excavator at the annual World of Concrete Exhibition in Las Vegas held from 23-26 January 2018.

CRAWLER CRANES

BOSPORUS SITE RELIES ON SENNEBOGEN CRANES

Turkish logistics firm Özüaydin Crane has put six Sennebogen crawler cranes to work at a major port construction site in Istanbul, Turkey.

The cranes, which can assemble themselves on site, include two 5500 E-series models and one 3300 E-series.

The 3300 E-series can lift 125 tonnes and offers a maximum boom length of 74.7m in its conventional configuration.

Power is derived from a 186kW Caterpillar C71 diesel engine, while the hydraulic system allows all functions to run simultaneously, the manufacturer said.

Meanwhile, the 180 tonne capacity 5500 E-series crane has a



Sennebogen said the Turkish equipment market offers plenty of potential.

261kW Caterpillar engine and is equipped with a maximum main boom of 80.3m.

Both machine types have a Star-Lifter crawler undercarriage. The 12 tonne main winches are rated at 160kN and offer a rope speed of up to 105m/min.

Sennebogen said the construction site, which overlooks the Bosphorus, has very challenging uneven ground. These conditions are ideal for the German made cranes as they are equipped with Sennebogen's highly sensitive controls that are said to guarantee the safe positioning of the load at any time, while the state-of-the-art maXcab allow operators good visibility of the work site.

ELECTRIC CARS

MERCEDES GEARS UP FOR THE FUTURE WITH ELECTRIC VANS

Mercedes-Benz Vans said it plans to offer all of its commercial van model lines with electric drive. This environmentally driven plan has started with the mid-size eVito which is now available to order, with deliveries commencing in the second half of 2018.

"We are convinced by the necessity of electric drive in our vans, especially in city centre applications. That said, electrification of the commercial fleet is not an end in itself, but follows the same principles as a classic drive when it comes to profitability.

"With our initiative, we're showing that only holistic mobility solutions extending beyond the drive itself present a real alternative for commercial customers. The eVito is the starting point and will be followed by the new -generation of our Sprinter as well as the Citan," said Volker Mornhinweg, head of Mercedes-Benz Vans.



Mercedes-Benz Vans are convinced that electrification of vehicles is the future.

With an installed battery capacity of 41.4 kWh, the range of the new eVito is said to be around 150km. Even in unfavourable conditions, such as low outside temperatures and with a full load, it is claimed it will have a range of 100km.

The mid-size van is also said to be perfectly configured for city-centre use by delivery companies, trades people and public transport providers. The battery can be fully

charged in around six hours.

For top speed, the driver can choose between two options: a maximum speed of 80km/h, which should fulfil all requirements in city and urban areas, while conserving energy and increasing range the customer can alternatively choose a top speed variant with up to 120km/h.

Mercedes Benz said as a pioneer in the development of battery-

electric vehicles, its MB 100 van was powered by an electric motor back in the mid-1990s, – the company's vans combine experience garnered over two decades with expertise from its everyday sales and marketing activities.

Mr Mornhinweg said: "We believe that even more so than in private ownership, vehicles used for commercial purposes must be tailor-made exactly to their respective use. Diverse types of trades and services, providers of courier or package delivery services and companies involved in the public or private transportation of people call for very different solutions.

"Starting with the Vito and following in 2019 with the Sprinter, Mercedes-Benz Vans will offer versatile and flexible base electric vehicles that can be adapted during the purchasing process in their range and load facilities to suit their specific usage scenarios."



■ A lubrication testing strategy is recommended as the best way of maintaining plant equipment

WELL OILED FOR SUCCESS

Oils and lubricants have a direct effect on equipment reliability, so with a good maintenance lubrication strategy companies can improve their plant and equipment uptime.

For any given piece of plant equipment, there are a number of important steps that, if implemented, will increase equipment reliability.

Having a lubrication strategy in place is important and recommended by plant manufacturers. This is because lubrication is what keeps a firm's capital investments operating smoothly and efficiently. If lubricants become contaminated or depleted of their sustaining properties, machines may suffer from overheating. This leads to downtime and loss of production, and

importantly the potential for expensive maintenance requirements.

There are a number of steps plant operators should consider in order to keep the equipment properly ticking over.

ASSESSMENT AND PLANNING

This step is about ensuring that all lubrication tasks are completed at the right time with the right lubricant and the right quantity, while using the right processes. For this, most companies use software to control and report the activity.

Once the lubrication and its handling procedures are established, the next step is to route the lubrication so that there is some type of maintenance practice. A procedure is recommended to be in place that specifically states how often the engineer needs to go and check or change a machine's oil.

JCB says that it recommends a strategy or planned preventative maintenance using top quality genuine parts, particularly in the rigorous conditions of the Middle East.

To ensure that the right lubricant is added to a piece of equipment, a labeling system is needed. This is driven by the fact that in large

fleets multiple types of lubricants may be used. Lubricants are complex chemical compositions and are often very incompatible, so to avoid errors of mixing them up, a labeling system is necessary.

CLEANLINESS

Oil contamination is a major source of component wear and equipment failure. Therefore, it is important that only clean lubricants are used in the equipment operation. Cleanliness control will ensure that the lubricant is stored safely, is clean and is transferred in a contamination-free environment.

Best practices for cleanliness control include:

- Only use fully sealed containers.
- Fit air breathers to all containers to prevent the ingress of water and contaminants from the atmosphere.
- Filter all oil to get it very clean.
- Only use contamination-free containers, i.e., containers that will not generate contaminants.

Open and dirty dispensing containers can be a source of contamination entering the machine. Dispensing equipment must be safe, clean and closed. It should be easy to use and adapted to the applications being filled. The

SOS CALL FOR PLANT EQUIPMENT

Similar to going to the doctor for a routine checkup many plant equipment manufacturers offer extensive maintenance services.

Cat's SOS Services is said to be the largest OEM in-house fluid sampling service and uses the latest technology to assess whether equipment is at risk for potential failure.

Local Cat dealers can provide advice and perform any actions needed, all while having the backing and support of Caterpillar trained scientists and engineers.

According to Cat, by using the SOS Services programme plant equipment owners can reduce their owning and operating costs by leveraging the Caterpillar branded proprietary process that turns fluids analysis data into valuable information.

The service has been available since the 1960s, and by identifying excessive wear or contaminated fluids, a problem can be predicted before a machinery breakdown, thereby allowing the owner to schedule repairs and downtime to fit his workload.

Cat says that export fluid analysis helps

a plant equipment owner to manage the machinery's health, which in turn reduces owning and operating costs.

SOS Services is an all-round programme and can be used by owners of Cat machines as well as those using mixed or competitive fleets of equipment. Cat says that currently more than 25% of its fluid sampling business is from competitive or non-commercial equipment.

Similarly, Volvo Construction Equipment has unveiled its Volvo Services, a comprehensive portfolio of product and service offerings that are designed for new and existing customers.

Within this service it has a fuel efficiency service which offers a range of consultancy and fuel reports that are said to lower operating costs of new and existing machines. With machine information on hand, Volvo says its customers can implement corrective actions, such as operator training that will improve working practices and ensure long term fuel efficiency.

Equipment manufacturers offer preventative maintenance packages.





Regular oil check-ups are essential.



Companies should only use trained engineers.



Clean equipment and a dirt-free environment are advisable for a good maintenance procedure.

containers should be well-identified so no mistakes occur, regardless of who uses them.

Adding grease to a machine accounts for the majority of lubrication tasks. Therefore, it is essential to have tools that are efficient and practical. Grease guns should be colour coded to ensure that the right lubrication gets in the correct application.

OIL ANALYSIS

Analysing the oil is an important part of a lubrication strategy. By measuring against ISO standards, the oil can be kept at the right cleanliness levels. Additionally, chemical analysis of the oil will determine if it is fit for further use.

If spilled, lubricants can contaminate the environment. Therefore, most maintenance strategies aim to prevent such contamination from occurring. This is also a key ingredient in world-class manufacturing standards.

Management of knowledge is becoming critical in industry, particularly within the maintenance sphere. Maintenance workers must be skilled in the benefits of good lubrication practices. Additionally, with the growing awareness of the benefits of employing reliability-based maintenance strategies, the basic training of personnel should be raised to that of the reliability techniques employed by best-practice

“ Due to significant variations in the quality of commercially available oils, we recommend Cat oils for our machines.”

Muhammad Niazi of Cat dealer Al-Bahar

organisations. In short, use trained people who know what they are doing.

Implementing reliability-based strategies that are successful over the long term is not an easy task. Many strategies fail because they are seen as projects and not as processes to change the work culture of those involved.

While cultures can be changed, to achieve this requires an understanding of the causes of failure and how to prevent these factors from coming into play during the implementation process.

STANDARDISING STOCKS

Another practice that is recommended is the standardisation of oil stocks to just one or two grades, as this will cut costs and minimise the

chances of costly mistakes.

There are thousands of different OEM-recommended oil specifications across the automotive, truck and plant equipment sectors, which in turn equates to several hundred different grades.

Consolidating to one or two grades not only reduces stocking requirements, it increases volumes and lowers the unit price.

Plant manufacturers build their machines to run correctly using lubricants conforming to one or more of a range of international specifications laid down by organisations such as the American Petroleum Institute and the European Automobile Manufacturers' Association.

Although there are many oils available, and standardising stocks and good house-keeping are a good idea, it still comes down to one thing, and that is always use the recommended lubricant.

Summing up, Muhammad Niazi, marketing operations supervisor for regional Cat dealer Mohamed Abdulrahman Al-Bahar says: “Generally, Cat oils have been developed and tested in order to provide the full performance and service life that has been designed and built into Cat compartments.

“Due to significant variations in the quality of commercially available oils, we recommend Cat oils for our machines.” **ENR**



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UNDER THE HAMMER

By **KARL WERNER**



Having launched IronPlanet in the UAE, Karl Werner, president of Ritchie Bros discusses auctions and the region's recent opportunity to experience a new online way to buy and sell plant machinery and equipment.

There are many ways to buy and sell heavy machinery and trucks these days. But what people generally like about auctions is that there are no 'pricetags' or fixed prices. Whether onsite or online, it is a transactional platform where buyer and seller can do fair business and get great results.

That's why I think it's so exciting Ritchie Bros now offers multichannel solutions to buy and sell in the UAE. Businesses still have one point of contact with Ritchie Bros, but multiple ways to find success when they need to buy or sell equipment. Whatever the situation is, whatever the needs are, people can simply call us and we'll help them choose the channels that work best for them.

This year to date, we've sold more than 5,500 pieces of equipment at our Dubai auctions alone. Additionally, we help our customers here in the region buy and sell in other markets in the world as well.

When we acquired online auctioneer IronPlanet earlier this year, we decided to quickly expand the brand and its service

to our customers in the UAE. We've now officially launched IronPlanet in the UAE [see news page 6].

People love the onsite auction experi-

“ I believe, online auctions can bring even more connectivity and more convenience when it's time to buy or sell heavy machinery in the UAE.”

ence in Dubai, but at the same time there is a great acceptance for the online sales experience. When in 2002 we added the option to bid online at our auctions we've seen it grow incredibly. If you look at our onsite auctions in 2016, roughly half of the equipment sold was sold to online buyers.

Together with IronPlanet, we're now

offering a true multichannel solution for our customers, with options to sell, buy and list equipment when, where and how they want, whether onsite or online. Buyers can virtually inspect items online and review detailed inspection reports performed by qualified inspectors. Equipment sold through IronPlanet is backed by the company's IronClad Assurance, guaranteeing the accuracy of the inspection report on each 'item' sold.

Online auctions offer new benefits to customers from the Emirates, such as selling without transporting items to a centralized location and the ability to sell items for a fixed price, negotiate offers or set a reserve. IronPlanet also offers a world-class inspection service that gives buyers confidence to buy online.

In 2016, 65% of the buyers at Ritchie Bros.' auctions in Dubai were from the UAE, representing nearly half of the auction proceeds. The UAE is at the forefront of embracing new technologies, connectivity and smart innovation.

Dubai has strategically invested in infrastructure over the years and is continuing to do so. As a result, the construction equipment market has become instrumental for the development of the region. Dubai continues to be a powerful heavy equipment exchange hub – not only for the Emirates but many countries in the wider region as well.

I believe online auctions can bring even more connectivity and more convenience when it's time to buy or sell heavy machinery in the UAE. **FWW**



The construction equipment market has become instrumental for the development of the region.

Karl Werner is president of Canada headquartered Ritchie Bros.

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REWRITING THE RULES

With the introduction of its next-generation hydraulic excavator range, Caterpillar is promising to transform the industry by improving operator efficiency, reducing fuel consumption, and lowering maintenance costs *By Fatima de la Cerna*

As one of the biggest – if not the biggest – players in the global construction machinery and equipment market, Caterpillar has had a hand in setting and defining the rules by which the industry has operated over the years. The manufacturer, however, doesn't appear to have any qualms about breaking those rules – or at least pushing them aside to make way for new ones.

“Welcome to the biggest improvements in fuel efficiency. Welcome to the lowest maintenance costs. Welcome to our next generation of excavators. New range, new rules,” goes Caterpillar's preamble to the grand reveal of its new hydraulic excavator (HEX) range, encouraging the members of the international

press gathered at its Málaga Demonstration and Learning Centre to “get ready to tear up the old rule book and rewrite the rules”.

A 106ha facility located on Spain's Costa del Sol, the centre was established in 1971. It boasts a 220-seat auditorium, a 625m² exhibition centre, several conference rooms, a number of service training facilities, around 60 demo machines, and a viewing terrace.

It also features a grandstand that looks out over a quarry – the setting of the official unveiling, which proves to be a spectacle of sound and light that hints at what's to come by referencing the Michael Bay film, *Transformers: The Last Knight*, in which a Cat excavator makes a cameo.

The equipment is none other than the 320,

one of three models that comprise Caterpillar's next-generation excavator range in the 18.1-tonne (20-ton) size class, the other two being the 323 and the 320 GC.

With the new range, Caterpillar promises not just a new set of rules but a new game altogether.

“Up to 45% efficiency improvement for the operator, up to 25% reduction in fuel consumption, and up to 15% maintenance cost reduction – this is game changing,” says Herwig Peschl, global marketing manager of Caterpillar. “Game changing is what we're about. We keep investing in our products and services to make sure we satisfy our customers [by giving them] what they have been asking for.”

Damien Giraud, vice president of global



construction and infrastructure (GCI) at Caterpillar, elaborates on Peschl's statement by emphasising Caterpillar's goal of "transforming" the global excavator industry.

Noting that the excavator business, specifically the 9.1t to 81.6t (10-ton to 90-ton) market, has a global value of \$22bn and is a "huge industry by itself", he says: "[Our only purpose] is customer experience. If you think about the contractors working on jobsites, they struggle to recruit operators. They have a hard time finding skilled operators.

"Our job, coming in with the new generation excavators, is to make any average operator a great operator, to make sure that they can do their jobs even though they have not [received much training] in the past, [to help them] evolve

from just being okay to being the best in class – this is what we intend to do for our customers."

In addition to operator skill, Caterpillar aims to address fuel and maintenance costs, jobsite safety, operator comfort, and variations in market requirements with its new range, announces Peschl.

"Game changing can be summarised in three words: simplification, innovation, and choices," he says, revealing that Cat's simplification strategy has meant slashing the number of its platforms, cabin types, and air filters by more than half.

"This is not just applicable to the [18.1t] size class but to all our product lines. With our current excavator series, we have 28 different platforms. We are reducing these to 12," he

continues. "What is a platform? A platform is a chassis; it is the hydraulics, the drivetrain, and the powertrain."

Commenting on how the change will benefit Caterpillar's customers, he explains: "The fewer platforms you have, the fewer parts you would have in the overall product line, [and] the more commonality you would have if you owned different size-class products."

The heavy equipment manufacturer, Peschl discloses, is also reducing the number of cabin types from 16 to three. This decision was taken following discussions with customers, who stated that operators found it challenging to adapt to different cabs when using different sizes of excavator. This feedback takes on more significance in light of reports from customers



CATERPILLAR®

■ Caterpillar's new excavator range in the 18.1t size class was unveiled at its Demonstration and Learning Centre, which is located in Málaga, on Spain's Costa del Sol.

that they are having difficulty finding good operators, Peschl points out. "There will be three cabs across the whole excavation product line, whether it's a small excavator or a large excavator.

"This is a big change and [it will] really help drive benefits for our customers, making it easier for the operators to switch models, switch size classes, and still have the same controls."

Caterpillar's simplification strategy extends to air filters, Peschl adds, explaining that the company has decided to reduce the number of air filters in its excavator range from 15 to four. With all four serving the whole product line, Caterpillar is confident its customers will see their inventory costs go down.

In a move reminiscent of a guru reciting a mantra, Peschl shifts his attention to the topic of Cat's innovation strategy by repeating the event's magic numbers: 45, 25, and 15 – 45% improvement in operator efficiency, 25% decrease in fuel consumption, and 15% reduction in

maintenance costs.

These claims are expanded on by Julien Roux, Caterpillar's regional product application manager for Europe, Africa, and the Middle East, who details the features of the next-gen HEX range.

"Over the years, all manufacturers – Caterpillar included – have had the same approach," Roux recalls. "We offered technology through optional attachments that allowed a progressive adoption of technology by the market, but that also created a lot of complexity in our machines.

"We're just breaking away from that approach. The 320 GC is very similar to what the market knows today. It delivers competitive performance and productivity, durability, and reliability for those customers who want to do the job, while keeping a close eye on their owning and operating costs."

He explains that the 320 GC, designed for low- to medium-duty applications, has the lowest cost-per-hour performance and fuel consumption of the three. The 320, on the

\$22BN
THE GLOBAL
VALUE OF THE
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NEW RULE: NO MORE LETTERS

As part of its simplification strategy, Caterpillar has dropped the letter modifiers from its product names. While older models have letter modifiers, such as the 374F or the 303E, the products in the new range are simply called 320 and 323.

"We've simplified the nomenclature," says Herwig Peschl. "Of course there will still be the Caterpillar logo on the machine, as well as the sales model, and a value segment identifier, [such as GC]."

The GC identifier, according to Laurent Sarignac, product marketing specialist at Cat, is used for machines that are "not as oriented towards heavy production as traditional excavators like the 320 and 323 are".



“With our current excavator series, we have 28 different platforms. We are reducing these to 12.”

Herwig Peschl,
global marketing manager



■ Caterpillar organised a product demonstration to showcase the features of its next-generation excavators.



“Contractors working on jobsites... struggle to recruit operators. They have a hard time finding skilled operators.”

Damien Giraud,
vice president of GCI

other hand, is intended for medium- to heavy-duty applications, offering versatility and the lowest jobsite cost; while the 323, described as the heavy-duty digger, has the most power and lift capacity.

Standard to all three are Cat Connect Technology – which increases operating efficiency by up to 45% over traditional grading operations – and a rear-view camera. In regions where regulations require it, a right-view camera will also be provided. The 320 and the 323 are installed with the Cat Grade 2D system. The system, which can be upgraded to Cat Grade with Advanced 2D or Cat Grade with 3D, reportedly offers guidance for depth, slope, and horizontal distance to grade, to help operators achieve their target grade quickly and accurately.

The system, says Roux, comes with an e-fence feature that allows the operator to create a “bubble” around the machine, preventing any part of the excavator from moving outside operator-defined set points, boosting operational safety.

Other standard features of the Cat 320 and 323 include Standard Grade Assist and the Cat Payload on-board weighing.

Standard Grade Assist automates boom, stick, and bucket movements, allowing operators to stay on grade with single-lever digging, while the payload component is expected to deliver precise load targets and increased loading efficiency with on-the-go weighing and real-time payload estimates without swinging, to prevent truck over- or under-loading.

Operators of the 320 and 323 will also have access to Cat Link hardware and software, which connect jobsites to the office, providing customers with machine-critical operating information.

“[For the 320 GC excavators], all other control and guidance features can be provided by our technology dealer network, Sitech,” says Roux.

To achieve a reduction in fuel usage, Caterpillar has installed its next-generation excavators with engines that provide power ratings from 107kW to 117kW, as well as a new smart mode operation feature that automatically matches engine and hydraulic power to digging

“Our job... is to make any average operator a great operator.”

Damien Giraud, Caterpillar



The manufacturer's facility in Málaga spans 106ha.



Caterpillar is simplifying its excavator product line.



The new range will be available in the region in Q2 2018.



Caterpillar's new range promises better operator efficiency, and lower fuel and maintenance costs.

conditions. According to the manufacturer, engine speed is also automatically lowered when there is no hydraulic demand.

Further boosting the products' fuel efficiency is a new cooling system, says Roux, explaining that the setup employs multiple electric fans that independently monitor hydraulic oil, radiator, and air-to-air aftercooler temperatures to deliver the exact airflow required.

With a new hydraulic system built for responsiveness and efficiency, the 320 GC, 320, and 323 all feature a new main control valve that eliminates the need for pilot lines, reduces pressure losses, and lowers fuel consumption, says

Caterpillar, adding that fewer hydraulic lines results in 20% less oil required, lowering long-term operating and maintenance costs.

Moreover, the new range features a new hydraulic return filter that boasts a 3,000-hour service life, a new air filter with integrated pre-cleaner and primary and secondary filters that extend service life to 1,000 hours, and a new fuel tank cap filter that extends service life to 2,000 hours.

“Each component that you will find in those machines can be programmed for efficiency, for extra productivity, for better fuel consumption, and for more safety,” says Giraud.



■ The new excavators feature redesigned cabs that come equipped with a keyless push-to-start button.

“Another point I would like to make... is that this platform is a true global platform. The only thing you will see changing from one region to [another] is the engine arrangement, because regulations are different depending on where you are in the world, in terms of emissions regulations. But the machine itself, the technology itself, [and] all of what is going to create customer value [are] exactly the same.

“It’s a true first global platform that we will be shipping from our factories with the same quality wherever you are.”

Caterpillar’s next-gen HEX range is expected to become available in the Middle East in the second quarter of 2018, with production already underway.

Talking about the region as a Caterpillar market, Peschl tells Construction Week: “The Middle East is a very important market for us, and we have, in fact, offices in Dubai. [The region] is a big part of our business, and it will remain that way.”

The manufacturer, says Peschl, is working

closely with Al-Bahar, its local dealer, to build its capabilities in the Middle East and to make sure that the products it is supplying to the market can withstand environmental challenges like high temperatures and sand.

But the challenges in the Middle East go beyond its regional conditions, notes Peschl, explaining: “The region is expanding and growing quite fast. The growth [can be] overwhelming, and very often in the Middle East we see places that grow very fast – in an explosive way, I would say – and then come to a sudden halt again. This unpredictability is the kind of challenge that we face.”

He continues: “From a product perspective, we’re trying to bring adapted solutions for our customers, and that will include the 320 GC, the 320, and the 323. This means we have options for big customers that need highly advanced products, as well as simpler products for smaller customers that are just starting their business.”

Customers are at the core of what Caterpillar does, Peschl emphasises, saying that the company, in the process of developing its

NEW RANGE, NEW CAB

Available in three trim levels, the cabins of Caterpillar’s new range have been “redesigned from the ground up”, says Julien Roux, explaining that they not only offer improved visibility with their low-profile design and large front, rear, and side windows, but also boast a “revolutionary operator interface”.

One highlight, he continues, is the touchscreen monitor, which displays product functionalities like climate control, radio, and camera views, in addition to information fed by the excavator’s grade assist, payload, and e-fencing features.

“Having all these functions migrated into the monitor allows us to considerably simplify the control panel,” says Roux. “The navigation for the monitor can be done either through the touchscreen or through a jog dial on the side.”

A keyless push-to-start button, sound-suppressed rollover protective structures (ROPS), and viscous mounts – which reduce cab vibration by up to 50% compared to previous models – are also standard features, adds Roux.

next-generation excavator range, conducted “thousands of interviews” with its customers and “listened extensively” to what they had to say.

This customer-centric approach, he notes, is the secret behind Cat’s position as an industry leader.

Expressing a similar viewpoint, Roux says: “We strongly believe that by serving the customers better [and] allowing them to make more money with our machines than with any other machine on the market, they will keep coming back to Caterpillar.

“So, while we can be sure that [the] competition will copy our approach in the next 18 to 24 months, we have a window of opportunity to set Caterpillar as the standard technology provider in this industry,” he adds, concluding: “The transformation of our industry has started.” **ENR**



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By Martin Cooper

SKID-STEERS: THE SWISS ARMY KNIFE FOR THE CONSTRUCTION SECTOR

Once an uncomplicated machine, skid-steer and compact loaders have become sophisticated tools, with multiple attachments available that allow them to perform a wide range of tasks.

When skid-steer loaders were first introduced they were uncomplicated pieces of equipment. They were four-wheel drive machines that allowed the driver to operate wheels on one side of the machine slower or faster than the other side as a means of turning. This caused the machine to skid and hence the name.

The first skid-steer is said to have been invented in the late 1950s by Cyril and Louis Keller of Minnesota, USA. The Keller brothers built the loader to help a local farmer, Eddie Velo, mechanise the process of cleaning turkey manure from his barn. Their light, versatile and compact machine was able to turn around within its own length, while performing the same tasks as a conventional front-end loader.

From these humble agricultural beginnings, skid-steers have steadily become more sophisticated and they are now used for a wide range of tasks. They are the Swiss army knife of the plant machinery world, with numerous attachments, they can perform a multitude of jobs quickly and efficiently.

The highly maneuverable skid-steer loader and its near cousin, the compact wheeled loader are usually fitted with a front-mounted bucket that allows the operator to dig, haul material, and fine grade.

The Middle East is said to be the third largest market for skid-steers and here the construction sector is the biggest user. Predominantly they are utilised in general construction, such as commercial and residential projects.

On these jobs, their versatility allows them to shift materials like sand, bricks and cement bags as well as help out with

site cleaning duties.

They can also be seen on heavy construction projects, like roads and elevated highways and for road maintenance works, again helping to shift materials around the site and aiding any needed clean up.

Utility companies also make use of these machines to lay service ducts, optical fibre and electrical cables.

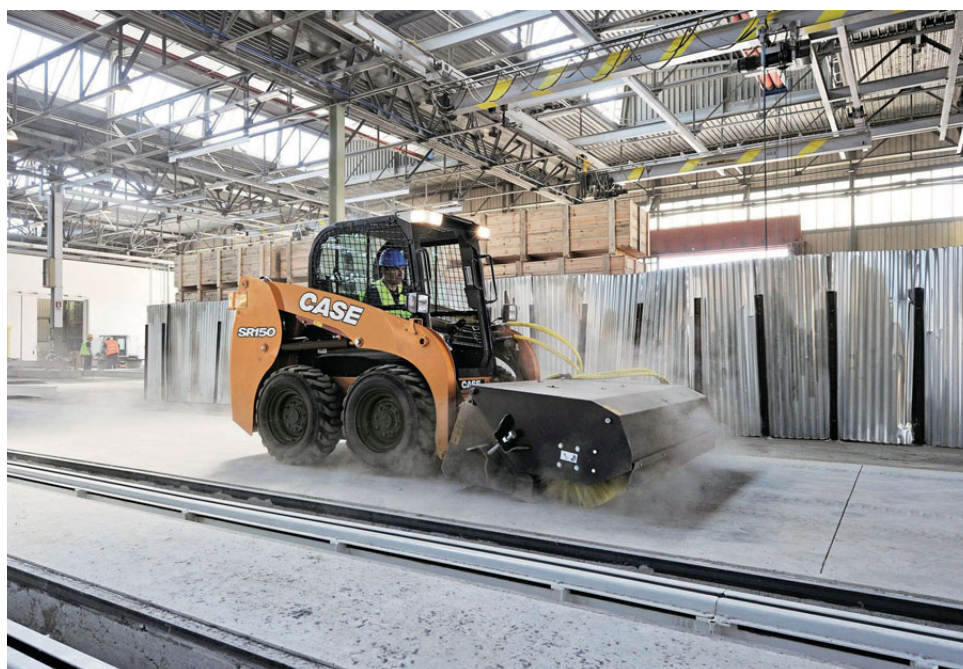
All of the above applications are possible because of the availability of a wide range of attachments that can be fitted in place of the bucket. These include pallet forks, brooms, wheel saws, augers and trenchers.

Numerous design advancements have also made skid-steer and compact loaders more cost-efficient and user-friendly. Most

manufacturers now offer enclosed cabs, with air-conditioning, something which is becoming more desirable in this part of the world.

Operating systems have also been improved in recent times and there is an increasing shift towards electronic controls over mechanical or hydraulic ones. These electronic controls reduce operator fatigue, after long hours of operation and provide a wider opportunity to customise control responses and functions.

In the following pages of our Special Report, PMV investigates, in more depth, the skid-steer market, new products and the enhancements manufacturers have made to their skid-steer and compact loader portfolio. Enjoy the Special Report.



Skid-steers' versatility and manoeuvrability mean they can easily work inside of buildings.



Volvo says that operator comfort is the most important feature for any compact machine.

LOADS OF POTENTIAL

PMV investigates the current trends shaping the skid steer and compact loader market.

Plant machinery is continually evolving and the kind of machine an operator would have expected 20 years ago is probably nothing like the state-of-the-art machines that are currently rolling off of production lines.

Operator comfort is now perceived as being of utmost importance, with most skid-steer manufacturers now offering enclosed cabs with air-conditioning. Also available are cab air protection systems, with filtered pressurised air that prevents dust from getting in, thereby creating a safer work environment. Heated seats are even

becoming a popular option.

According to JCB's regional director for the Middle East Marco Bersellini, the company's key products for this region's skid steer market include the 155HD machine, which comes, as standard, with an air conditioned cab.

With a rated capacity of 600 to 700kg, which is the most popular capacity range in the Middle East, the 155HD represents JCB's best selling unit along with its 135HD canopy machine.

Manufacturers are also designing cabs with greater fields of vision – including

fitted cameras, sensors and light packages that show what is behind and around the machine to increase safety.

ALL MOD CONS

There is a new emphasis related to operator experience. Cabs are generally much quieter and may have features like Bluetooth for better sound and communication. The industry also recognises that several operators might use a skid steer during the course of a day, each having their preferences for steering and controlling the machine.

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■ With its sealed air-conditioned cab, the 155HD is JCB's most popular compact machine in the Middle East.



■ Bobcat's most popular skid steer in the region, the S450 has a cab that is 10% larger than previous models.

To compensate for this, manufacturers offer several steering and bucket control systems to accommodate operator

preferences. Options include steering with levers, joysticks, "T-Bars" and foot pedals or electronic controls for operating attachments.

Operators can also adjust how attachments are used, such as changing elevations for level grading operations without getting out of the cab.

Caterpillar says, its D-series of skid steers offers several design innovations, including the world's only one-piece sealed and pressurised cab that offers more comfort as well as protection from dirt and dust.

The D-series have hand controls that move along the seats and adjust forward and back to allow operators to customise positions for better comfort.

"We've also introduced an advanced



■ Cat's D-series of machines feature hand controls that move along the seats, allowing operators to reposition them for better control and comfort.

display monitor where up to 50 different security codes can be set up. This can store and recall operating preferences for each code, allowing individual operators to tailor the machine to their experience level and application," explains Caterpillar market development engineer Vijayakumaran Rengaraju.

"This is a particularly useful feature for large fleet owners with numerous operators."

FEELS LIKE HOME

Volvo Construction Equipment says it has made the inside of the C-series skid steers' cab more spacious and this extra room comes with an easily-accessible storage compartment, including a 12V power outlet located under the left-hand armrest.

Summing up, Franco Invernizzi, senior business director for CNH industrial construction equipment for Africa and the Middle East, says: "The customer's main priority with these machines will always be quality and reliability, while they must remain easy to operate." **ENR**

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Landscaping contractors find tracked machines are useful on uneven ground.

WHEELS OR TRACKS?

More wheeled loaders are sold in the Middle East than tracked loaders, but what are the advantages of using either of these variants? PMV investigates how and when these machines should be used.

Determining what type of machine will be used on a particular project is an important decision plant operators and contractors make on a regular basis.

Each individual plant machine has been designed to perform best in certain conditions and skid-steer and compact loaders are no different.

It is generally accepted that the skid-steer loader is a valuable asset on nearly every jobsite. It is quick and highly manoeuvrable.

It is compact enough to operate in tight spaces, yet powerful and productive enough to deserve a place in every fleet, from general builders to landscape professionals, and utility companies and cleaning businesses.

Skid steers do have their shortcomings and this is where the compact track loader comes into the equation. Developed as an enhanced version of a skid-steer, the track loader is capable of doing the same work, with a few added advantages.

Does this mean the demise of the skid-

steer? The answer to that question is no. But there is a debate to be had. Which machine is the best fit for certain projects and applications, the skid steer or tracked loader?

WEIGHING UP THE OPTIONS

To begin our comparison between the skid-steer and the tracked loader, let us investigate the advantages of each machine variant based on features and design.

Skid-steers are lighter than tracked loaders,

making them easier to transport, often with less time and cost. They also have a solid reputation in the construction world, thanks to top manufacturers that have built quality machines for a number of years.

Tracked loaders have the edge over skid steers in terms of operator comfort. The smooth operation of tracked loaders is a bit more forgiving than the rougher ride of a skid-steer. Tracks also cause less disruption to the ground, reducing site clean-up time compared to a skid steer.

Both machines are known for their great maneuverability. They can turn and operate in tight or awkward spaces where turning radius is not generous.

PROJECT LOCATION

Above all other issues, location is the main factor in deciding if a skid-steer or tracked loader is best. Location is so important because each machine is designed to perform its best in certain conditions.

Skid-steers are great on harder surfaces like concrete and asphalt, especially with hard tyres. Tracked loaders are able to operate fine on these surfaces, but harsh ground is tough on tracks and can cause accelerated wear.

Rocky conditions are also much tougher on tracked loaders, with the possibility of a track being damaged or cut by sharp objects. Skid-steer operators, however, must still take caution in this terrain to avoid punctured tyres.

On the other hand, tracked loaders can operate in places skid-steers would struggle including uneven, muddy, sandy and snowy terrain. Tracks navigate well on these surfaces, and the added stability makes a tracked loader more productive and capable of better lifting and breakout force.



■ Tracked loaders are more suited for working with heavy attachments such as breakers.

COST

Like any commercial decision, cost is usually an important and pivotal factor in any plant equipment discussion.

Considering upfront the short-term costs, the skid-steer comes out as the more economical choice. The price tag of a tracked loader is usually higher than a comparable sized skid-steer. And the biggest wear item of a tracked loader, the tracks, is much more expensive than skid-steer tyres.

Looking at long-term costs, tracks last several hundred hours longer than skid-steer tyres, in comparable operating situations. A mid-quality track typically lasts three to four times longer than conventional tyres. With proper use and care, the tracked loader can be a sound financial choice in the long run. In terms of time investment, skid-steers and tracked loaders require virtually the same commitment to preventative maintenance.

The only differentiating part is tyres against tracks, and both of those should be checked on a regular basis. Tyre pressure on skid-steers, and track tension and adjustment on track loaders.

Another factor to consider is downtime cost. If clean ground conditions become very muddy, a skid-steer may not be able to work. A tracked loader, however, is designed to perform in adverse ground conditions, and the day's productivity will not be halted due to weather or other unforeseen circumstances.

Advantages and disadvantages aside, the decision to use or buy a skid-steer or tracked loader is usually individual and boils down to each unique company, its projects and its primary focus.

As an example, a company with projects primarily on asphalt or concrete surfaces is going to use a skid-steer and pay a lower initial cost. Conversely, a contractor whose tasks are typically done on uneven or sandy terrain, or those who do a good amount of work in rainy and snowy weather may find the tracked loader is worth the upfront cost and the investment will pay off in the long run.

“Both types have their own advantages, wheeled models can work on all sites but a tracked machine will be more stable on loose ground conditions.

“Also heavy attachments can be handled more easily on a tracked machine,” sums up JCB regional director for the Middle East Marco Bersellini.

“The use of tracked machines in the Middle East is limited, particularly as most construction work does not happen in the middle of a desert.” **EMW**



■ Wheeled loaders are the preferred option in the Middle East due to their versatility.

VERSATILE AND ADAPTABLE

PMV showcases the most popular and recent models in the skid steer and compact loader market



Landscaping contractors find tracked machines the useful on uneven ground

IN DEMAND

Franck Lethorey, communications officer for the Manitou Group, says the skid steer and compact loader market in the Middle East has increased by 10% this year, following two years of decreasing sales.

The company's Gehl range of machines are said to be in high demand with construction companies and

hire firms alike.

Available in all variants, these North American produced loaders are said to be ideal for all climatic conditions and terrains, while a raft of multi-use attachments can be fitted to the machines allowing them to be used for most construction tasks.



Credited with being able to trace its lineage back to the original inventors of the skid-steer, Bobcat has always been at the forefront of the compact loader market.

Producing both wheeled and tracked machines, the company has launched a new version of its T870 compact tracked loader. The model features a new torsion suspension undercarriage, replacing the previous machine that had a roller suspension system.

Introducing a completely new undercarriage design to Bobcat compact tracked loaders, the torsion suspension undercarriage is said to feature axles that dampen vibration, combining the comfort of roller suspension and the stability of a solid mount undercarriage.

The new T870 is also said to offer 10% more lift capacity than previous models and is available with a wide range of standard and optional features and in a range of configurations to match emissions and specification requirements for all European, Middle East and African markets.

Bobcat says a more comfortable and relaxed environment in the cab – achieving a new level of comfort without sacrificing work performance – has also been achieved.

The torsion suspension is said to not only improve ride quality, but also absorb stresses and vibrations encountered while working. The result is reduced wear and tear, and improved component life, throughout the machine.

The loader has a five-link torsion suspension undercarriage that Bobcat says minimises rocking and swaying when lifting a load high or when performing grading tasks.

A unique fifth link acts like an independent suspension, increasing ride comfort and greatly reducing the rocking effect that is typically associated with torsion suspensions.

The T870 loader is intended to run the most powerful attachments from the Bobcat range, such as wheel saws to cut trenches for cable/pipe laying and a forestry cutter attachment

DUST SUPPRESSION

Volvo Construction Equipment has launched a raft of enhancements to its C-Series of skid-steer loaders. Available for both wheeled and tracked versions, one of

BOBCAT T870 COMPACT TRACKED LOADER SPECIFICATIONS

- Operating capacity: 1,726kg
- Tipping load: 4,931kg
- Operating weight: 5,863kg
- Lift path: Vertical
- Ground clearance: 249mm
- Height with cab: 2,123mm
- Width over tracks: 2,103mm



■ The latest Bobcat loader is now available.

the new features is an optional reversible fan, which is recommended for customers working in extremely dusty conditions.

The fan automatically blows in reverse for five seconds every 30 minutes. However, it can also be engaged manually or turned off via a switch on the control panel. The reversible fan option is said to dramatically reduce downtime spent cleaning the machine's cooling system, while eliminating the risk of overheating.

Volvo's EMEA compact equipment director Per Leis says: "Volvo skid-steer loaders are used for all kinds of applications in the Middle East but they are especially popular for utility works.

"Our compact loaders are used where road transport is necessary to and from a site. Backhoe loaders are still the most important machines for this general work,

A CASE IN POINT

According to CNH, its SR130, SR150 and SR220 skid-steer loaders are the most popular machines across the Middle East. These products are said to ideally match the requirements of the customer base, offering high machine uptime at competitive price levels.

Commenting on the regional market in general, Franco Invernizzi, senior business director CNH industrial construction equipment for Africa and Middle East says his company continues to invest in the region despite a difficult market.

"All plant equipment markets are under significant downward pressure. However, the compact machine markets, including skid-steer loaders is less affected than the higher value heavy line products," he explains.

Consequently, Case Construction Equipment [part of the CNH group] has recently made significant investments, such as doubling the size of its regional office in Dubai and also opening a new Middle East parts and distribution centre in Jebel Ali.



■ Case loaders are popular in the GCC.

but this is changing as machines need to be more specialised and this is where compact loaders can benefit."

Volvo currently has four C-Series skid-steer loaders available in the Middle East, as well as four compact wheel loaders.

Summing up, Gaby Rhayem, regional director for Doosan Bobcat says the compact sector is continuously evolving and more technological advancements are imminent.

STEERING SUCCESS

JCB's regional director for the Middle East, **Marco Bersellini** gives his viewpoint on the local skid-steer and compact loader market and what the sector can expect in the future.

What is the current market like for skid-steer and compact loaders in the Middle East?

The compact market has dropped significantly in the last two years as result of the current adverse market conditions, but it still represents around 25% of the total construction equipment market. Major markets for skid-steers are Kuwait, Saudi Arabia and the UAE. This year we have seen significant growth in demand from Iraq.

What sectors typically use the machines in the Middle East?

Typical customers for compact machines are contractors working on house building and landscaping jobs as well as rental companies. Skid-steers are such a versatile machine with a wide range of attachments that we can find an application in almost all sectors, including industrial and agriculture.

How long have these machines been available in the region?

Skid-steers have been around for decades and the market in Middle East has been historically the second biggest market after the USA.

Is there room for more growth? Such as further sectors using the machines?

The market is currently down, but I think it will grow again soon, possibly back to 2015 levels, which would be double its current size.

As the Middle East market becomes more mature and its cities get bigger and busier, I envisage the compact sector, including machines such as mini excavators, will also grow significantly.

This will then follow the same trend that we have already seen in North America and Europe.

How important is servicing and after sales in the region?

All construction equipment customers expect good service and back up support when purchasing a machine.

So, having a strong distribution network in



JCB says the current compact market in the GCC is down, but there are signs of a return to growth.

the region like JCB makes all the difference. As manufacturers, we support our dealer network so they can provide fast and cost efficient service to customers.

This is typically done through mobile service vans and workshops, supported by excellent parts availability.

What are the main differences between the Middle East markets and the rest of the world and does the climate and weather affect the machines?

The Middle East market generally requires simple mechanical machines supported by less stringent emissions legislation i.e. Tier 2.

The rest of the world uses Tier 4 engines and usually requests more sophisticated machines with electronic engines and control.

As the Middle East's weather is very

harsh and hot, most small skid-steers were historically bought as canopy versions, but there is now a trend now towards customers asking for machines with air-conditioned cabs.

What does the future have in store for skid-steers and what advancements are coming?

Innovation is the life blood of manufacturers and we are no different as we are always looking forward to finding new ways to help our customers to get their jobs done faster and safer.

We have recently developed the new JCB Teleskid, a skid-steer with an extendable boom which gives customers further reach capability and ultimately makes the JCB skid steer an even more versatile machine.

We hope to launch it in the Middle East very soon. **EMW**

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BIG JIB

PMV reviews how the world's largest luffing jib tower crane is benefitting the team building Dubai's ICD Brookfield Place project, which is due for completion in 2019

As the home of the world's tallest building, the world's largest indoor theme park, and the world's largest shopping mall, Dubai is no stranger to superlative engineering achievements. Now, a construction team in the city has added another entry to this list – the \$408.4m (AED1.5bn) ICD Brookfield Place's (ICDBP) project site is currently home to the world's largest luffing jib tower crane – the Favelle Favco M2480D.

A partnership between Investment Corporation of Dubai (ICD) and Brookfield Property Partners (BPY) is leading the project's development. Designed by Foster + Partners, ICDBP features 9ha of Grade-A commercial

space. The 55-storey building offers column-free units, with floorplates ranging from 1,579m² to 2,787m².

Multiplex and Ssangyong (MSS) are working in a joint venture (JV) as the project's main contractors. Project management and mechanical, electrical, and plumbing (MEP) engineering services are being delivered by Aecom, while BSBG is on-board as the project's delivery architect.

The Favelle Favco M2480D luffing jib tower crane is being used on the project for its lifting capabilities, Scott Cunningham, operations manager for Multiplex Technologies Plant and Equipment, tells *PMV*. At 330 tonnes (t) maximum lifting capacity, the luffing crane is

the world's heaviest in terms of capacity.

"For this project, the crane has been configured to 110t capacity on a single line, with a 55m boom radius and 76m free-stand height," he adds.

The specialised piece of equipment is at ICDBP's site for a six-month period, and was shipped from Australia specifically for use on this project. The crane was supplied by Marr Contracting, a specialist Australian heavy lifting contractor, Andrew Lipshut, technical manager at Multiplex Middle East, tells Construction Week.

A luffing jib crane as large as the Favco M2480D has never been used in the UAE before, and Lipshut says numerous design



L-R: Multiplex's Andrew Lipshut, Louis Linde and Scott Cunningham.



The world's largest luffing jib tower crane.



ICDBP will offer 9ha of Grade-A commercial space on completion in 2019.



The Favco M2480D crane was shipped in from Australia for the project.

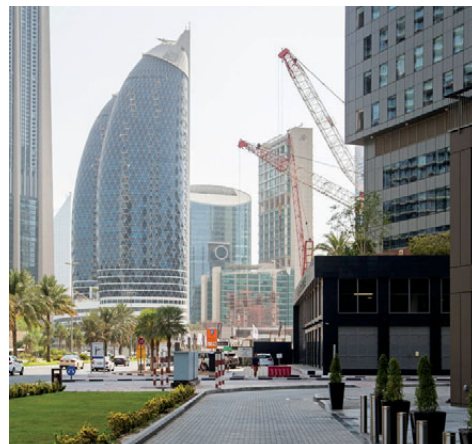
approvals were needed to bring the crane to its current home, adding: "A crane of this size, [combined] with the reactions of the base, needed a lot of engineering work to make sure that it was capable of withstanding the forces, [and] it entailed a lot of technical work to get it where it is."

It took the contracting team two weeks to erect the crane, during which some road diversions and closures were implemented to get the equipment on site. Cunningham says the contractors' in-house operators are fully capable of working with the crane, and are helped by the "very good training regimes" that are implemented for crane operators in the region.

"We knew this crane was coming a long time ago, so we made sure we'd be ready for it," he adds.

This readiness is the result of extensive planning and crane selection exercises carried out by the contractor team, and Lipshut says numerous iterations of crane models and sizes were considered when project planning began.

“ For this project, the crane has been configured to 110t capacity on a single line, with a 55m boom radius and 76m free-stand height.”



Multiplex and Ssangyong (MSS) are working on ICDBP in a JV as main contractors.





■ Operations manager Scott Cunningham.



■ Andrew Lipshut, technical manager.



■ The project completion deadline is Q1 2019.



“The largest lifts needed are around 80t to 85t, so the original scheme we had featured a smaller crane in four locations, which would be shifted around the site,” Lipshut continues.

“However, getting the crane set up and shifting it to different locations takes time as well. Instead, the current scheme involves the larger [Favco M2480D] crane being set up in only two locations.”

Favco M2480D’s “purpose on the project”, Lipshut explains, is to help establish four A-frame transfer structures – made of steel – that sit between the building’s ground and fifth levels, on all sides of the building, with the A-shaped component being 35m high. The entire 55-storey tower lands on the A-frame, transferring out to eight mega-columns, down to a 4m-thick raft below.

Lipshut explains the engineering of this structure, and how the Favco M2480D has helped the operation: “The five steel nodes of the A-frame each weigh up to 85t, and are very complicated steel elements being designed, fabricated, and erected by Eversendai.

“We originally looked at having those brought over in smaller pieces and then welding them on site.”



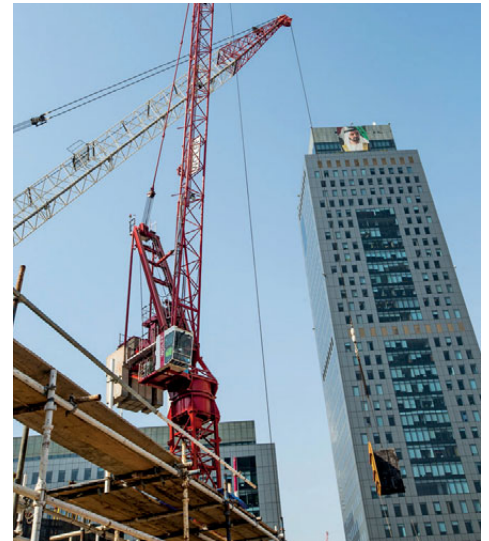
“A crane of this size, [combined] with the reactions of the base, needed a lot of engineering work to make sure that it’s capable of withstanding the forces.”

The quality considerations of welding these pieces on site were factored into the crane selection process. The Favco M2480D helps lift each part of the A-Frame as a single piece, which means detailed welding work can be carried out in the factory, thus improving the quality of work, offering weld quality assurance, and allowing time savings, Lipshut explains.

He adds: “Originally, we were going to split the node in [separate] pieces, bring these [in] with a small crane, and weld them together, but with the Favco M2480D, we have been able to work [using] single pieces, which is very beneficial.”

Louis Linde, executive director for projects





L-R: Multiplex's Scott Cunningham, Andrew Lipshut and Louis Linde.

LUFFING JIBS SEE POPULARITY RISE IN THE GULF

The tower cranes segment in the Gulf is seeing an increase in the use of luffing jib cranes over the traditional favourites, hammerhead, and flat-top cranes, according to Nabil Al Zahlawi, CEO of Abu Dhabi's NFT Specialized in Tower Cranes told *PMV Middle East* this May.

He continued: "At present, between 15% and 18% of our fleet are luffing jibs, but the number is increasing every day."

Luffing jib cranes are often preferred in densely packed sites where traditional cranes would otherwise be at risk of obstructing one another, being obstructed by other structures, or pose an unreasonable jobsite risk by overhanging active roads or other infrastructure.

at Multiplex Middle East, tells *PMV* that for the project team, the crane is delivering advantages of not only time, safety, and cost, but commercial management as well: "[The crane] has de-risked the project a lot. For example, implementing an element [such as the nodes] piece-by-piece would involve a lot of temporary works. The manufacturing of these nodes could have taken weeks or months [...] if we had to do that on site, so the time benefit is [significant]."

Safety is also a critical factor for the project team, and Linde says that the crane – like all other elements of the construction programme – was tested and studied in detail ahead of its finalisation and implementation: "Everything we do on site first goes through a rigid process of planning; our safety programme is world-class, and we're running a rigid protocol of method statements and risk assessments.

"Even before we do any on-site work, we



■ The site undergoes a rigid protocol of method statements and risk assessments.



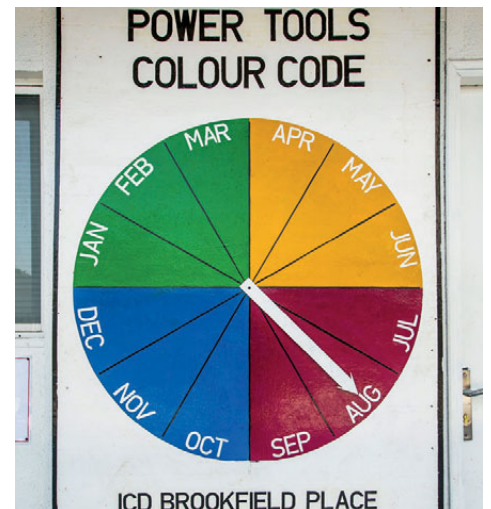
■ Luffing jibs can provide more flexibility on congested sites.



■ A temporary works unit studies all designs.



■ The ICDBP project team.



■ Safety is a critical factor for the project team.

have a temporary works division that studies the designs of all the various elements [of the project]. Meanwhile, on bigger elements, we actually don't proceed to the next step unless the previous step [has been] signed off. All this ties in with the levels of safety and quality on the project. We have a strict regime before we do anything on site to make sure everyone is safe."

Credit for the success of both the project scheme and the world's largest crane on its site is due to its development team. In addition to the core team comprising ICD – the investment arm of the Government of Dubai – BPY, MSS, BSBG, and Aecom, partners such as Robert Bird Group, Priedemann, Coffey, and AESG are respectively on-board as structural engineer, façade consultant, geotech engineer, and LEED consultant.

Speirs + Major is ICDBP's specialist lighting provider, while The Vertical Transport Studio is providing vertical transport services for the project. Acoustic Logic has been appointed the development's acoustic consultant, and Design

Confidence has been contracted to provide fire and life safety services.

In addition to commercial spaces, ICDBP features 1.3ha of retail areas, including a food hall, private club, restaurants, and a health and fitness club. Three sky suites, with a floor-to-ceiling (FTC) height of 6.3m, will be developed on levels 51, 52, and 53 of the project – each fitted with dedicated indoor garden terraces. Up to 46 lifts will be installed in the building, of which 30 will be passenger units to serve the office tower.

The development, which is pre-certified with LEED Gold credentials, also includes seven below-grade levels to house 2,700 cars. Loading docks – to be built within the office and retail spaces – will be connected to the Dubai International Financial Centre truck tunnel, with the project's ground and first levels directly linked to the Dubai International Centre's Gate Avenue.

While a short-term guest at ICDBP's site, the world's largest luffing jib tower crane will go on to have a long-term impact in the

UAE's contracting community, according to the project team. Linde says that while crane selection is a project-specific activity, he has noted a rise in the use of luffing jib models across the Middle East. He adds that while "it is better to use the hammerhead because you can reach more [site space]," construction sites with limited area are best worked on with a luffing jib crane.

Additionally, Cunningham points out that in cities with high rates of construction activity – such as Dubai – these cranes are likelier to be the eventual choice for a project: "Luffing jibs definitely give a lot more flexibility on congested sites."

The construction team of ICDBP looks set to make significant progress next year, as the project nears its completion deadline of Q1 2019. Moreover, the team's deployment of the Favco M2480D on one of Dubai's landmark construction sites may even encourage other contractors in the Gulf to emulate the ICDBP team's efforts, and for the regional contracting sector, this can only be a good thing. **ENR**

PEAK PERFORMANCE

TRENDS IN TECHNOLOGY AND SUSTAINABILITY

LIFTING

LINK-BELT UPGRADES MOBILE CRANE

Link-Belt Cranes has announced the new RTC-80160 Series II mobile crane, an upgraded 145 tonne rated version of its previous rough terrain unit.

“The 80150 has been a phenomenal success ever since it was introduced and this new base rating will be good news to our distributors and crane owners. It only makes sense for us to upgrade the 80150 to represent the top base rating in the market with the RTC-80160 Series II,” said Brian Smoot, Link-Belt Rough Terrain Crane Manager.

Link-Belt Cranes first introduced the world



■ The company has evolved its product offering into three six-wheel rough terrain models.

to hydrostatic drive on a six-wheel carrier frame in 2002 with the RTC-80100 Series II.

The company has evolved its product offering into three six-wheel rough terrain models: RTC-80110 Series II, RTC-80130 Series II, and now RTC-80160 Series II with hundreds of these units said to be working across the globe.

Link-Belt claims that its six-wheel rough terrain cranes continue to be the market leaders and are the trusted option in applications that range from pier and dock work to refineries and industrial plants.

SAFETY

DUBAI POLICE JOIN MAN FOR SAFETY PUSH

Dubai Police have stressed the need for better training, stricter enforcement of laws and the deployment of technology driven safety solutions on local roads.

Aimed at emphasizing the role of heavy vehicles in ensuring safety on UAE roads, Dubai Police, in partnership with MAN Truck & Bus Middle East and RoadSafetyUAE, hosted an event for fleet owners and other stakeholders, showcasing various road safety initiatives and solutions to reduce heavy commercial traffic incidents.

The event explored ways to boost road safety, in line with the targets outlined in ‘UAE Vision 2021’, which aims to reduce road traffic fatalities from about 6/100,000 residents (end 2016) to 3/100,000 by 2021.

Citing dangerous road habits of drivers and the need to constantly educate and train them, Captain Salem Mesfer Rashid Alamimi from the Dubai Police, said: “Our various campaigns and initiatives in partnership with industry stakeholders in the past have resulted in a significant drop in the number of accidents involving heavy vehicles. To ensure road safety for all, it is critical to engage with truck drivers, the owners and fleet operators as well.”



■ From left to right: Fabien Taillardat, business segment manager, Michelin, Daoud Helmi, commercial director, Michelin, Thomas Edelmann, managing director, RoadSafety UAE, Captain Salem Mesfer Rashid Alamimi, Dubai Police, Captain Saad Alsehan, Dubai Police, Franz von Redwitz, managing director, MAN Truck & Bus Middle East, and Ivana Dragovic, head of marketing, MAN Truck & Bus Middle East.

The event highlighted the ongoing efforts by MAN to increase road safety, both by building safety into its trucks and fostering a culture of safe driving.

“We are pleased to partner with Dubai Police to further enhance road safety awareness among various stakeholders of the commercial vehicles industry in the UAE,” said Franz von Redwitz, managing director, MAN Truck & Bus Middle East.

“The importance of stricter enforcement of laws and continuous education and training is paramount, but it is also critical to equip commercial vehicles with new technologies

to ensure complete and absolute safety on the roads.”

Event participants gained insights into how proper safety measures, best tyre and load practices, technology-driven solutions and driver training support programmes can lead to a significant drop in road incidents.

Mr von Redwitz added: “Adopting best practices in vehicle safety not only helps in driving down the number of traffic incidents and enhancing road safety but also results in reducing fuel consumption and optimising loads thereby maximising the economy of the fleet operating companies.”

FUEL EFFICIENCY

CNH ENDORSES LNG FOR SUSTAINABILITY

Co-hosting an event in Germany dedicated to logistics transporters, CNH Industrial has demonstrated the benefits of liquefied natural gas (LNG) for the logistics sector.

Key to the event was CNH's unveiling of the new IVECO Stralis NP (Natural Power) 460, which is said to be the world's most sustainable heavy long-haul truck.

Sustainability and the efficient management of resources are top of the agenda in the logistics sector as operators increasingly look to reduce their environmental footprint and comply with ever-more stringent regulations.

Natural gas is said to provide savings of up to 40% in fuel costs, up to a 15% reduction in fuel consumption compared to diesel as well as ensuring low noise emissions. Trucks running on LNG are said to improve air quality by significantly reducing CO₂ and nitrogen oxide emissions.

"As part of our logistics transportation strategy we are well on our way to converting our main inbound and outbound distribution lanes to LNG vehicles," explained Dror Noach, vice



■ Sustainability is top of the agenda in the logistics sector.

president global logistics at CNH Industrial.

CNH Industrial is currently shifting its European fleets from Diesel to LNG, an operation that includes a network of 34 production plants and 10 depots.

This strategy aims to achieve an 18% reduction in CO₂ kilograms per ton of goods transported within 2022, compared with the levels recorded in 2014.

IVECO claims that it was one of the first

manufacturers to acknowledge the potential of natural gas in the commercial transport industry, anticipating the recommendations put forward at the last G20 Energy 2016 summit held in Beijing, China.

During the summit, natural gas was recognised as a low-emitting fossil fuel which plays an important and effective role in the future of energy, one that should be characterised by low levels of greenhouse gases.

ELECTRIC VEHICLES

NISSAN LEAF ELECTRIC CAR DEBUTS IN ME

Japanese car manufacturer Nissan has unveiled the second generation of its electric car, Nissan Leaf, for the first time in the Middle East.

According to the company, Nissan Leaf supports its vision of "intelligent mobility" and focusses on three key aspects: intelligent driving, intelligent power, and intelligent integration.

Importantly the Leaf will have a 40kWh pack, good for approximately 400km the company claims. Charging times are 16 hours at 3kW, 8 hours at 6kW, and drivers can expect to get an 80% charge in 40 minutes on a fast charger.

The second-generation Leaf features a number of gadgets such as Nissan's driver assist system, called ProPILOT Assist, which combines adaptive cruise control and lane keeping, plus a whole raft of other safety systems to warn of errant pedestrians or vehicles in various blind spots.

The car comes with the e-Pedal, which is said to allow the driver to start, accelerate,



■ Nissan has been selected as the official automotive partner of Dubai's Expo 2020.

decelerate, stop, and hold the car with just the use of the accelerator pedal.

The new Leaf has a sportier design than the previous model, with clean and simple lines and a sleek silhouette. It has the signature V-Motion grille on board, floating roof like other Nissan models, and projector-beam headlights with dual, direct-lens low and high beams.

The charging port on the front has been

re-configured to a 45-degree angle for convenience, while on the rear, there is a spoiler integrated into the window guard and the underfloor and diffuser-type rear bumper are said to combine to reduce drag for improved vehicle stability.

The unveiling was conducted at the site of Expo 2020 Dubai, during which it was also revealed that Nissan has been selected as the event's official automotive partner.

ELECTRIC VEHICLES

ET TESTS UAE'S FIRST ELECTRIC SCHOOL BUS

Emirates Transport (ET), a leading transport, logistics and auto services provider, has launched the final phase of its testing for what is claimed to be the first electric-powered school bus in the Middle East.

The 45-seater bus was manufactured in close cooperation with the Shanghai Sunwin Bus Cooperation, in one of the first projects of its kind worldwide.

Mohammed Abdullah Al Jarman, general manager of Emirates Transport, said: "The launch of a zero emission school bus comes as part of our efforts to achieve the vision of the government for a green economy and puts the UAE in the forefront of such initiatives, regionally and globally."

He explained that the bus will operate in accordance with the specifications and regulations of school transport enforced in the country, pointing out that the application of these specifications represented the largest challenge during the manufacturing phase during which specialists from ET conducted three visits to the factory in China, in order to inspect the production line.



The range of the bus is 100km under harsh operating conditions.

In turn, technicians and specialists from Sunwin also visited the UAE to assess how the country's climate and other conditions may impact on the bus's performance.

In addition to the usual structural safety tests, the bus underwent operational tests for three months, followed by several preliminary operational tests in the UAE. These tests will be concluded during the coming months under climatic and operational conditions similar to those expected

during the school year.

Amer Al Harmoudi, executive director of ET's Auto Services Division, said that one of the most important technical factors during the manufacturing phase was adjusting the efficiency of the air conditioning system to suit the specific climatic conditions in the country and the nature of operation in school transport.

In order to provide the supporting infrastructure for the operation of the bus, Al Harmoudi

said there will be two fully integrated bus power stations, one at a location of the manufacturer's UAE partner, Al Naboodah Group Enterprises (ANGE), and the other at an Emirates Transport bus terminal, adding that the current system is capable of fully charging the bus batteries in just four hours.

Fadil Atallah, manager of ET's Technical Development Department, explained that the current range of the bus is 100km, and that is under harsh conditions, including maximum power operation of the air conditioning systems and all other electronics, adding that the distance travelled under normal operating conditions would be 150km.

Buti Juma Al Naboodah, deputy chief executive officer of commercial for Al Naboodah Group Enterprises, commented: "Al Naboodah Group Enterprises is a strong advocate of sustainable practices, and this is reflected in our Vision 2020. We have long since supported the use of electric vehicles in our product portfolio, and through our trusted partnerships with Emirates Transport and Sunwin, this vision is becoming a reality."

QUARRYING

MB CRUSHER AIDS LEBANESE BATCHING SITE

An MB Crusher bucket BF90.3 is helping a Lebanese batching plant mitigate its sand shortage by using its sandstone stockpile to obtain just the right grade of aggregate.

Mounted on a Volvo EC290B excavator, the MB crusher bucket has been used to crush the sandstone into smaller and easily fractured stones to be reused in the concrete mixing operation.

In this way, the client said it managed to crush the sandstone boulders into very small stones



Boulders are crushed into small stones that can be fractured in a second stage crusher.

that could be fractured in a second stage crusher.

MB Crusher bucket's versatility is said to allow high

production levels as they crush the material immediately in the excavation process, hastening on site operations.

The Italian manufacturer claimed its exclusive and patented Made in Italy technology, means MB Crusher buckets can process all extracted material, in order to render it re-usable directly on-site or sold for other applications.

Their precision of production is also said to allow materials, which were previously destined solely for disposal, to be processed in calibrated batches, which can be re-sold or re-used on-site, thereby leaving the mineral balance of the quarry/site unaltered.

ENGINES

SCANIA DESIGNS NEW GAS ENGINE FOR LONG DISTANCE TRANSPORT

Based on the company's well known 13-litre engine, Scania's new OC13 gas engine is said to have been designed for long distance hauling, particularly on rigorous construction sites.

Scania says there is a growing interest in operating vehicles on biogas or natural gas as a result of increased availability, improved infrastructure and good economic viability.

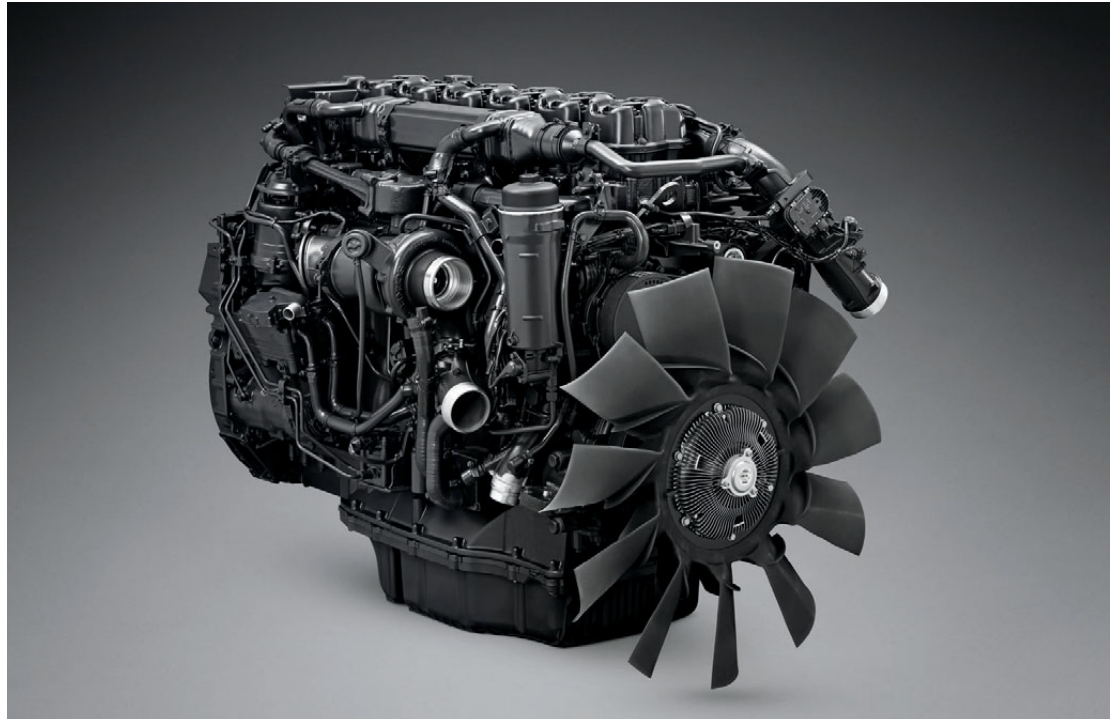
Scania's gas engines are based on stoichiometric combustion, as they have complete combustion of both fuel and oxygen. Similar to a petrol engine, the combustion is initiated by means of spark plugs. The pre-mixing of the fuel takes place upon entry into the cylinders.

"Throughout development, our aim has been to ensure the best possible driveability," explained Folke Fritzson, senior engineer at Scania R&D and part of the team developing Scania's gas engines. "The performance and characteristics should always correspond to that of a modern diesel engine."

The choice of fuel is always an important consideration. Both LNG tanks (for refrigerated, liquefied gas) and CNG tanks (for compressed gas) can be ordered directly from Scania. The company said LNG always provides greater range, as a significantly larger amount of fuel is available.

"In combustion, there is no difference between LNG and CNG, but there are significant differences in the operational range," said Mr Fritzson.

"With LNG, it's up to 1,100km for a typical semi-trailer on a flat road. CNG usually provides a range of up to 500km. The



latter is more than sufficient for many customers, for example in regional transports with a return to the home base and refuelling every day. The mileage that can be achieved before refuelling is required also depends on the type of driving and usage, and how hilly the route is."

In order to improve safety, Scania's engineers have turned

the tank valves backwards, away from the direction of travel. This is said to reduce the risk of the valves becoming damaged if hit by stones or gravel.

Gas engines that operate according to the Otto principle (with pre-mixing of fuel and spark plugs) have shorter service intervals than diesel engines. However, Scania claims it has

achieved a significantly longer service interval, with the lifespan of the spark plugs currently setting the limit.

"We have defined the interval at 45,000km for both the spark-plug and oil changes with normal use," said Mr Fritzson. "This is a clear improvement over previous generation gas engines. This reduces maintenance costs and increases availability."

"Everything indicates that we are heading towards a breakthrough for gas engines, including heavier trucks for long-distance transport and construction-site vehicles," commented Henrik Eng, product director urban, Scania Trucks.

"Everyone can now benefit from good driveability and driver comfort. We also see that the rapidly growing gas infrastructure in several European countries spurs interest in using this alternative fuel."



Scania has specified an interval of 45,000km for both the spark-plug and oil changes with normal use, which is a clear improvement over previous generation gas engines.

HOT MACHINES

YOUR MONTHLY GUIDE TO THE BEST KIT

CAT COMPACTORS TARGET RENTAL

Four new Caterpillar compactors, the CB2.5, CB2.7, CB2.9 and CC2.6, have been released, with the company claiming they are ideal units for the rental sector.

Designed to fit into any rental fleet, the compactors are fitted with Cat's Product Link capability that enables close monitoring to keep owners informed of machine location and service needs.

A simple control panel and spacious platform are said to offer comfort to suit all operators, while durable components and a fuel efficient engine will maximise uptime and lower lifetime operating costs.

The machines all use weight-based

nomenclature that signifies its standard operating weight in metric tonnes, for example the CC2.6 is a 2.6-tonne compactor.

Caterpillar claims this naming sequence makes it easier for customers to choose the machine that best fits their requirements.

The new models are said to provide excellent versatility in the competitive 2.5-tonne to 2.9-tonne size category.

Operating features include toggle-type switches which are said to offer quicker and easier activation of machine functions. Fuel level, engine temperature and machine hours are all shown on an analog display.

Moving the machines from job site to site

■ *The machines use weight-based nomenclature.*



is said to be easy with a single point lifting option and a durable hitch design for hoisting the compactors onto transport vehicles.

HEAVY LIFTING TOWER CRANE LAUNCHED

Raimondi Cranes has announced its newest and what it claims is its most innovative tower crane to date, the flattop MRT234.

The crane features a maximum jib length of 70m and a lifting capacity of 12 tonnes. At maximum radius, in its 'Ultralift' mode, it can lift 2.25 tonnes.

Raimondi said that the crane is now available for general purchase, after the company began shipping to its agent network in September in order to fulfil advanced orders.

"We are thrilled to launch the MRT234 after months of preparation. Our R&D team worked with various suppliers for four months to build the prototype, erected in August 2017 at our headquarters in Italy.

The final stage of testing took three months including pre-assembly of the crane, evaluating many different types of configurations and all of the model's

structural tests," explained Domenico Ciano, technical director at Raimondi Cranes.

"This testing phase, part of Raimondi's internal technical quality control procedures, allowed for various performance measurement assessments, and allowed the engineering segment to observe these metrics at work thereby ensuring the best possible results for end-users."

Compared to its predecessor, the MRT234's slewing speed and trolley movement have been improved by approximately 30%. The crane's smoothness of motion and accuracy have also been enhanced, according to its designers.

"Raimondi's newest product is heavily geared towards user experience, and these [user interface- and user experience-centric] features, pioneered by Silicon Valley's technology companies – when applied to heavy-lifting machinery – result in a high-performance product that boasts extreme



■ *The MRT234's slewing speed and trolley movement have been improved by approximately 30%.*

operator ease on site," Ciano added.

Raimondi's MRT234 offers a choice of eight jib-length configurations, ranging from 28m to 70m. The model can also be equipped with two different hoisting winches: the 45kW version, which comes as standard; or the more powerful 55kW variant.

NEW COMPACT CRANE IS ALL-TERRAIN

Manitowoc has introduced two new all-terrain cranes, the Grove GMK4090 and GMK4080-2, both said to feature a modern, compact design that puts emphasis on roadability and maneuverability.

Manitowoc said the new Grove series cranes come in response to customer demand for lightweight, flexible taxi cranes in the 90-tonne capacity class.

Andreas Cremer, global product director of Grove all-terrain cranes, said the GMK4090 and the GMK4080-2 models are essentially the same crane, but the GMK4080-2 carries less counterweight, to match the load chart of its predecessor, the GMK4080-1/GMK4100B. "The GMK4090 has been designed with flexibility and maneuverability as the main focus. With its best-in-class taxi load chart and compact footprints, this crane will be ideal for a variety of jobs, such as general construction and plant maintenance work."

The GMK4090 offers a 51m, six-section MEGAFORM boom that utilises Grove's TWIN-LOCK pinning system. Boosting its overall reach is a 9/15m bi-fold swing-away



■ The narrow 2.55m width, allows easy access in confined job sites.

jib that can be extended with a 6m boom extension for a total jib length of 21m.

The cranes are also said to feature compact dimensions, with a narrow 2.55m width, so they can easily access and maneuver within confined job sites.

The machines have a minimum tailswing

of 3.5 m, which allows them to stay within their maximum outrigger width. The GMK4090 also offers the new MAXbase feature as an option — this variable outrigger setting is said to give the crane more setup flexibility on the job site, especially when erecting it on uneven ground.

HYUNDAI EXTENDS LOADER RANGE

Hyundai has launched a new wheeled loader, the HL965, which has an operating weight of 20,100kg and is powered by a Cummins QSL9 electronically controlled diesel engine.

The maximum axle load capacity is 44,000kg at the front and 35,000kg at the rear, with standard 23.5 R25, L3 tyres.

It has a new sound-proofed, air-conditioned cabin that Hyundai says is 10% larger than was previously available on older machines.

The loader is fitted with a touch-screen monitor that has a display similar to a smart phone. The audio system has an integrated Bluetooth hands free feature, and a built-in microphone allowing the operator to take and make calls when in the cab.

The 'infotainment' system [providing both information and entertainment] also allows the operator to enjoy the Miracast system, which works via the WiFi of the operator's smart phone and enables easy use of the smart phones features on the big screen including navigation, web surfing,



■ A new sound-proofed, air-conditioned cabin is 10% larger than was previously available on older machines.

watching videos and listening to music.

The HL965 is also available in an XT

version, with a longer boom for a bigger dumping height.

UP, UP AND AWAY

Tower cranes supplied by local dealership NFT are proving to be indispensable for the construction of a prestigious technology focused development in Dubai.

A fleet of tower cranes is proving its worth on the Silicon Park project in Dubai. The scheme, which is the brainchild of developer Dubai Silicon Oasis Authority, with China State Construction acting as main contractor, is making use of nine cranes all supplied by regional dealer NFT.

The fleet consists of eight Manitowoc Potain MCT 205 topless models plus an MC 205 B top-slewing unit.

Covering 150,000m², Silicon Park will be a mixed-use development and also a free-trade zone with a focus on technology businesses. It is claimed that it will have some of the strongest green credentials in the region, in line with Dubai Municipality's Green Building Regulations and international LEED standards. Buildings will include apartments, offices, leisure facilities, a museum and a mall.

In total, the cranes are helping to construct some 23 low-rise buildings, and their duties include the handling of building materials and structural elements.

Abdul Zidan, construction manager on the Silicon Park project for China State Construction, said the tight timescale for the project had dictated the cranes' selection.

"We are using the nine Potain cranes to cover 97,300 m² of the project," he said. "All are good-quality, reliable machines, and NFT has provided us with good service and



■ Silicon Park covers an area of 150,000m² and is a mixed-use development with an emphasis on technology.

maintenance support. Having NFT with us has helped keep this project moving swiftly despite its congested schedule, and delays have been kept to a minimum."

The Potain MCT 205 topless cranes have a maximum capacity of 10 tonne and can lift 1.75 tonne at their maximum jib end of 65m.

The MC 205 B is a regular-design, top-slewing crane and is said to be a proven performer on job sites across the Middle East, Asia, Africa and Latin America. It also has a 10 tonne maximum capacity, 60m jib and 2.4 tonne jib end capacity.

Nabil Al Zahlawi, managing partner at NFT,

said the MCT 205 units were a perfect choice for the Silicon Park project.

"We selected the MCT 205 for China State Construction because it is a crane that's strong, compact and fast to erect," he said. "We were also able to use our position as the world's largest owner of Potain cranes to ensure that we met the tight delivery timescale.

Because there are so many cranes on the project, NFT has also specified Potain's Top Tracing anti-collision technology.

Further control is said to be ensured due to Potain's variable frequency technology for all hoisting, slewing and trolleying mechanisms. This optimises the speed of the cranes' movements and also regulates their power consumption, which NFT says, provides for better efficiency.

Set for completion by the end of 2018, Silicon Park is the latest development to support Dubai's drive to become one of the world's leading Smart Cities.

The development will include intelligent solutions, such as charging docks for smart devices on the street, as well as pop-up furniture, digital play tables, and an array of health and fitness amenities.

Travel around the development will also be completely free of regular vehicles, with electric cars as the primary mode of transport. **EMW**



■ Crane supplier, NFT, is said to be the world's largest owner of the French-made Potain cranes.



■ With so many cranes being used, the project is making use of Potain's anti-collision technology.



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